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Vol. XX Cleveland, Ohio, January 11, 1928 No. 2

Calpet-Texas Corp. Deal Heads 1928 Consolidation Conversations

Staff Special

CLEVELAND, Jan. 10

THE new year has brought gossip and rumors of oil company mergers. One probable merger is in process of negotiation, that of the Texas Corp. and the California Petroleum Corp. Another probable consolidation rumored is that of the White Eagle Oil & Refining Co. and Independent Oil & Gas Co. Purchase of the Manhattan Oil Co., Kansas City, by the Phillips Petroleum Co. is said to be imminent. Another possibility is the absorption of the Lion Oil & Refining Co. by the Pan American (Standard of Indiana).

Acquisition of California Petroleum Corp. by The Texas Corp. would give the latter crude reserves. It also would give The Texas Corp. additional refining capacity with a source of supply for its northwestern domestic markets and an outlet to the oriental export markets.

Acquisition of the California Petroleum Corp. would not bring an immediate supply of new crude to The Texas Corp. if 1926 operations are an index to current operations. In 1926 California Petroleum had production of 15,429,770 barrels, a daily average of more than 40,000 barrels. Its refining capacity at the end of 1926 was 55,000 barrels daily, exclusive of two Holmes-Manley cracking units which it had contracted for with The Texas Co.

The Texas Co. in 1926 produced 21,009,199 barrels of crude in the United States and 564,363 barrels in Mexico. It purchased 23,638,968 barrels of crude in this country, Mexico and Venezuela.

There was a report Monday in Los Angeles that The Texas Corp. would assume control of California Petroleum Jan. 15 but the report could not be verified. This early completion of a merger was scouted in New York where The Texas Corp. has its main offices. The presidents of the two corporations, R. C. Holmes of the Texas and Jacques Vinmont of Calpet, were en route today from California to New York. It was believed in New York today that further details must be worked out.

It was believed in New York banking circles that The Texas Corp. would pay one share of its stock for each two outstanding shares of California Petroleum. This would require about 1,000,000 shares of Texas stock, an amount that has been authorized under the 1926 reorganization of the corporation but has not yet been issued. The Texas Corp. stock has lately been selling around 54 and California Petroleum around 24.

IT IS generally believed that the recent resignation of Amos L. Beaty as chairman of the board of The Texas Corp. resulted from disagreement over terms for the acquisition of California Petroleum. It is known that he opposed the consolidation of the two corporations two years ago although John J. Mitchell, the Chicago banker who was associated with John W. Gates and J. S. Cullinan in the formation of the original Texas Co. and who until his death recently was the principal stockholder in The Texas Corp., favored the merger and his estate is working for it now.

It is known now that merger discussions between California Petroleum and Transcontinental Oil Co., which were in progress late in 1927, have been discontinued. Officers of each company examined the other's property and books but, so far as can be learned, no definite offer was made.

One of the rumored deals in the Mid-Continent, that of the Independent Oil & Gas Co. and the White Eagle Oil & Refining Co., is confirmed by the appearance last week of executives of the White Eagle, with auditors, at the offices of the Independent in Tulsa. Several conferences were held beginning Jan. 1 between L. L. Marcell, president, and R. R. Irwin, vice president, and Milo T. Jones, secretary, for White Eagle and Waite Phillips, chairman of the board, E. H. Moore, president, R. Otis McClintock, vice-president, and other officials of the Independent. Waite Phillips, outstanding independent operator, recently became a strong factor in the Independent Oil & Gas Co.

EXAMINATION of each other's properties and records is proceeding but, it is understood, no basis for exchange of stock or purchase, whichever is contemplated, has been proposed by either side. Such a deal would make an imposing company. Independent, which recently acquired the Philmack Oil Co., organized and named for Waite Phillips and R. Otis McClintock, has extensive producing properties and a pipe line system in the Seminole-Okmulgee district. It also holds large acreage in West Texas and Kansas. Independent has a complete

Statistical Analyses Delayed

THE analyses of Bureau of Mines petroleum statistics which usually are published in the second issue of NATIONAL PETROLEUM NEWS each month, will be published in the Jan. 18 issue. Delay is caused by the lateness of receipt of the Bureau of Mines report, probably due to the intervening holidays.

refinery at Okmulgee and natural gasoline plant.

The White Eagle would bring to the new set-up a notable marketing organization, three refiners, located at Augusta, Kans., Fort Worth and Casper, Wyo. White Eagle manufactures all standard petroleum products. It operates about 900 service stations, of which about 600 are company-owned, in 10 middle western states. It has extensive acreage and production amounting to around 3,000 barrels a day in the Mid-Continent.

Purchase of the properties of the Manhattan Oil Co. of Kansas City, by the Phillips Petroleum Co. or the absorption of the former company through an exchange of stock, has been rumored in Tulsa recently. There have been some conversations between officials of the two companies.

Phillips Petroleum Co. recently began to round out as a complete organization through the purchase of a refinery in the Panhandle field which is being enlarged to about 7,500 barrels' capacity a day, and the establishment of a marketing department which has built a small group of stations in Kansas and Oklahoma. The company is the largest manufacturer of natural gasoline in the world and within the past year has developed an aviation motor fuel of straight natural gasoline and a motor gasoline which is understood to be largely natural gasoline, closely fractionated and blended to produce a motor fuel of high anti-knock qualities.

Manhattan Oil Co. has production in Kansas, a pipe line to its 5,000-barrel refinery at Kansas City, and more than 500 bulk and service stations in the middle west from Kansas City north to the Canadian border. The company recently brought out a new motor fuel which it has named Man-Go-Gas which is being sold at a premium as an anti-knock gasoline with a high benzol equivalent. The Manhattan has been an aggressive company, adding to its facilities for marketing its products in territory to which it has favorable freight rates. Stock in the company is closely held.

An official of the Phillips Petroleum Co. refused to make any definite statement regarding the rumor. He indicated that at least some preliminary discussions had taken place, but expressed doubts that anything would be done. An official of the Manhattan Oil Co. denied that any merger or purchase was in progress.

Another persistent rumor is that the Lion Oil & Refining Co., of El Dorado, Ark., will soon pass into new control. The favorite candidate for the purchase is the Pan American Petroleum & Transport Co. whose plant at Destrehan, La., has been partly closed with the view, according to unconfirmed report, of moving part of the equipment to Venezuela.

Officials of the Lion declined to discuss the rumored sale.

Property of Calpet and Texas Summarized

CLEVELAND, Jan. 10.—Assets of The Texas Co., the corporation which has since become The Texas Corp., amounted Dec. 31, 1926, the date of the last financial statement it has issued, to $432,386,716, subject to depreciation and amortization, reserves for which totaled $108,867,147. Total assets of California Petroleum Corp. after depreciation and depletion reserves totaled $98,897,910.

The Texas Co. had no funded debt and carried $13,500,000 cash. Its total current indebtedness amounted to less than $20,000,000 and deferred purchase obligations to less than $2,000,000. California Petroleum's funded debt amounted to $18,452,900 and its purchase and current obligations aside from income taxes due which were covered by a reserve, totaled less than $6,000,000. Its cash totaled more than $8,000,000.

The California Petroleum marketed throughout the Pacific coast territory, and in the northwest as far east as Minnesota. In part of the northwestern territory it overlapped the operations of The Texas Co. In the foreign field it had markets in Argentina, Chile, Australia, New Zealand, China, Phillipine Islands, Japan, Cuba, India, Society Islands, and French Indo-China.

The Texas Co. has national distribution for its lubricating oils and almost national distribution for its gasoline. It markets gasoline over a wider territory than any other petroleum organization in the United States.

Calpet's refinery at Watson, Calif., Dec. 31, 1926, was rated at 55,000 barrels and the cracking processes contracted for was to add 2,000 barrels more to the capacity.

The Texas Co. has refineries at Port Arthur, Port Nechez and Dallas, Texas; Tulsa, Okla.; Casper, Wyo.; Craig, Colo.; Lockport, Ill.; Pryse, Ky.; Norfolk, Va.; Providence, R. I.; Marcus Hook, Pa.; and Ardis, Ia. Combined capacity is around 125,000 barrels daily. Its average crude charges a day in 1926 was approximately 100,000 barrels.

California Petroleum has production in California, of course, Wyoming and Montana. The Texas Corp. has production in all Mid-Continent states and Rocky Mountain states except Montana, the Gulf Coast, and Kentucky.

Oil and gas lands and reserves held Dec. 31, 1926, by Calpet totaled 68,372 acres. That held by Texas totaled 2,254,569 acres in this country; 8,649 in Mexico and 106,367 in Venezuela. Production in 1926 of Calpet amounted to 15,429,770 barrels and of Texas 21,576,562 barrels.

The Calpet has five ocean going tankers and The Texas Co. 23 tankers of 2,500 or more gross tonnage. The Texas Co. also has several large barges and tugs.

Subsidiary companies of The Texas Corp. includes Texas Pipe Line Co., Texas Pipe Line Co. of Oklahoma, Texas Petroleum Co., Texas Production Co., Texas Steamship Co., Marshall Gas Co., Texas Co. of Mexico, Continental Petroleum Co. of Belgium, and the Texas companies of England, New South Wales, West Virginia (doing business in South America), South Africa, Porto Rico, Cuba, Denmark, France, Italy, Phillipine Islands, and Sweden.

Calpet subsidiaries are Tacoma-Olympic Distributing Co., California Petroleum Corp. of Utah, Ventura Consolidated Oil Fields, Midland Oilfieds Co., California Gasoline Co., Ventura Refining Co., Santa Paula Oil Co., Oak Ridge Oil Co., Northern Star Oil & Refining Co., Olympic Calpet Refining Co., Ventura-Colorado Oil Co., Olympia Marketing Corp., International Refining Co., American Oilfields Co., Mexican Oil Lands Co., Montebello Oil Co., and Cape Steamship Co.

Calpet affiliated companies are Red Star Petroleum Co., Arctic Refineries, Ltd., and Northwest Petroleum Co.

Index to Coming Meetings

Wisconsin Independent Oil Jobbers Association, Plankinton Hotel, Milwaukee, Jan. 18.

South Dakota Independent Oil Jobbers Association, Carpenter Hotel, Sioux Falls, S. D. Jan. 18, 19.

Michigan Independent Oil Men's Association, Statler Hotel, Detroit, Feb. 2, 3.

North Dakota Petroleum Association, Waldorf Hotel, Fargo, Feb. 2, 3.

Iowa Independent Oil Men's Association, Savory Hotel, Des Moines, Feb. 8, 9.

Illinois Petroleum Marketers Association, Hotel Abraham Lincoln, Springfield, Ill., Feb. 15, 16.

Ohio Petroleum Marketers Association, Neil House, Columbus, O., Feb. 22, 23, 24.

American Oil Men's Association, Hotel Stevens, Chicago, March 6, 7 and 8.

Inland Plants Fail to Get Their Share Of Increase in Gasoline Business

By J. C. Chatfield
N. P. N. STAFF WRITER

TULSA, Jan. 9

INLAND refining districts of the United States failed to increase their shipments of gasoline in 1927 as rapidly as domestic consumption mounted. Seaboard refiners, particularly on the Gulf coast and in California, encroached on the gasoline business of the inland plants, according to a comparison of figures of the U. S. Bureau of Mines with consumption figures compiled by the American Petroleum Institute.

Refineries in the Appalachian region showed the smallest increase in gasoline shipments during the first months of 1927 for which government figures are available. Their increase was but 2.47 per cent as compared with an increase of 12.93 per cent for the United States as a whole. Refineries in the Rocky Mountain group come next with an increase in gasoline shipments of only 5.10 per cent in the first 11 months of 1927 as compared with the first 11 months of 1926.

SHIPMENTS of inland refineries in the Mid-Continent field increased 8.91 per cent in the same period. In this group are included Oklahoma and Kansas refineries which increased their gasoline shipments 9.59 per cent, north Louisiana and Arkansas plants which showed an increase of 16.92 per cent and north and central Texas refineries which showed an increase of only 3.98 per cent, due to unfavorable freight rates to domestic consuming territory and a very unsatisfactory export market.

The Illinois and Indiana refineries approximated the increase shown by the Mid-Continent by increasing their gasoline shipments 9.54 per cent. This was almost exactly the same increase reported by Oklahoma and Kansas refiners.

California refiners showed the greatest increase in gasoline shipments in the first 11 months. Their business jumped up 23.53 per cent. Next came the Gulf coast with an increase of 17.21 per cent and the East coast with an increase of 10.34 per cent.

AN EXAMINATION of gasoline tax figures as gathered by the American Petroleum Institute makes it apparent that inland refining centers lost business in their natural trade territories through the competition of the coastal plants. Tax reports for the first 10 months of 1927 show that the states embraced in the marketing territory of the Standard Oil Co. of Indiana increased their gasoline consumption 14.8 per cent. The Mid-Continent states including Oklahoma, Kansas, Arkansas, Louisiana and Texas showed an increase in gasoline taxed for consumption of 12.6 per cent.

This group of states comprises the bulk of the domestic marketing territory of Mid-Continent and Indiana-Illinois refineries and yet the Mid-Continent refiners increased their shipments only 8.91 per cent and the Indiana-Illinois plants increased their shipments only 9.54 per cent.

Western states including the Rocky Mountain and Pacific coast territory increased their consumption of gasoline 12.6 per cent, yet California refiners increased their shipments 23.53 per cent. The northeastern states embracing the Appalachian and East coast trade territories showed an increase of 13.3 per cent in gasoline consumption while the East coast refiners increased their shipments 10.34 per cent and the Appalachian plants only 2.47 per cent. Southeastern states which get most of their gasoline normally from the East and Gulf coasts with a little from the Mid-Continent showed an increase in consumption of 7.7 per cent in 10 months. For all states which have comparative tax reports the increase was 12.5 per cent.

IN THE Mid-Continent field refiners who sell an important part of their gasoline production on the spot market have been pursuing a conservative policy with respect to pushing their gasoline sales since the first of May. In the first quarter of the year Mid-Continent refiners worked hard to increase their business by pushing their gasoline into competitive territory. When the gasoline season opened in earnest, however, the competition of other areas brought

Cumulative Shipments of Gasoline by Weeks for 1926 and 1927

from Mid-Continent Refineries from which Reports are Gathered by National Petroleum News. (Figures in Gallons).

No. Weeks	1926	1927	Per Cent of Increase	Weeks No.	1926	1927	Increase Per Cent of
1	23,888,000	30,364,000	27.1	27	857,552,000	934,290,000	8.9
2	52,798,000	64,924,000	22.9	28	896,651,000	974,972,000	8.7
3	78,486,000	95,893,000	22.2	29	936,074,000	1,014,564,000	8.4
4	103,518,000	124,348,000	20.1	30	976,430,000	1,055,279,000	8.1
5	129,109,000	154,562,000	19.7	31	1,011,747,000	1,092,274,000	7.9
6	157,743,000	183,678,000	16.4	32	1,049,073,000	1,130,981,000	7.8
7	184,890,000	215,320,000	16.4	33	1,084,667,000	1,168,902,000	7.8
8	211,571,000	247,196,000	16.8	34	1,122,641,000	1,207,830,000	7.6
9	238,942,000	281,012,000	17.6	35	1,160,860,000	1,251,324,000	7.8
10	270,297,000	313,150,000	15.9	36	1,198,485,000	1,293,220,000	7.9
11	298,519,000	346,222,000	15.9	37	1,236,252,000	1,336,357,000	8.1
12	330,714,000	379,694,000	14.8	38	1,271,876,000	1,376,724,000	8.2
13	363,475,000	419,406,000	15.3	39	1,302,888,000	1,411,833,000	8.4
14	393,184,000	454,815,000	15.7	40	1,333,897,000	1,446,541,000	8.4
15	425,285,000	488,250,000	14.8	41	1,368,867,000	1,477,643,000	8.0
16	456,831,000	521,223,000	14.1	42	1,403,252,000	1,513,643,000	7.9
17	494,987,000	557,516,000	12.6	43	1,438,089,000	1,551,115,000	7.9
18	533,259,000	592,968,000	11.2	44	1,472,368,000	1,589,173,000	7.9
19	569,482,000	631,551,000	10.9	45	1,508,544,000	1,623,576,000	7.6
20	604,109,000	668,778,000	10.7	46	1,545,708,000	1,659,616,000	7.4
21	641,038,000	706,565,000	-10.2	47	1,576,384,000	1,691,068,000	7.3
22	674,936,000	742,663,000	10.0	48	1,610,239,000	1,726,087,000	7.2
23	709,662,000	780,436,000	9.9	49	1,646,581,000	1,758,739,000	6.8
24	747,453,000	819,441,000	9.6	50	1,678,450,000	1,789,366,000	6.6
25	783,792,000	856,276,000	9.2	51	1,708,862,000	1,817,522,000	6.4
26	822,852,000	895,792,000	8.9	52	1,737,197,000	1,848,652,000	6.4

prices so low that the Mid-Continent manufacturers began to market their motor fuels in a more restricted area.

During the past six months when markets have been at their worst gasoline has been available in the Middle West at prices well below those prevailing in the Mid-Continent. Much of this gasoline has been quoted to the distributing trade on a f.o.b. Group 3 basis which has led to the conclusion many times that the product was to be shipped from Mid-Continent refineries.

IN RECENT weeks, for example, reports have been current of U. S. Motor gasoline being offered in Indiana marketing territory at 5.25 to 5.40 cents per gallon f.o.b. Group 3. These prices, when checked down, have been found to be for gasoline to be shipped in from refining plants outside of the Mid-Continent.

In the Mid-Continent field this publication gathers operating figures weekly from 79 refineries with a daily still capacity of 408,600 barrels of crude oil per day. These plants represent about 60 per cent of the operating capacity in the field and approximate closely the group of manufacturers having substantial quantities of gasoline to sell in the open market.

An attached table gives shipments of gasoline from these plants by weeks on a cumulative basis for the years 1926 and 1927 with the percentage of increase for the year to date at the close of each week. From this table it will be observed that in the active first quarter of the year the Mid-Continent group kept gasoline shipments more than 14 per cent greater than in 1926. From that time forward the competition of other areas forced the business down until at the close of the year total shipments of 1,848,652,000 gallons of gasoline were only 6.4 per cent greater than the record of 1,737,197,000 gallons established in 1926.

Henry M. Dawes Reviews Industry

NEW YORK, Jan. 7.—Belief that the oil industry is in a phase where it is suffering not from a lack of resources or ability but from a too rapid maturing of both and that in the long view the industry will have a history of increasing usefulness and reasonable prosperity was written by Henry M. Dawes, president of the Pure Oil Co. in a review of the industry published in the New York *Herald-Tribune* Jan. 2.

"It would be futile to attempt to forecast just how long it will be before more stable conditions are assured," Mr. Dawes wrote in part. "No industry known whose basic supply of raw material is adequate and which is dealing in a universally necessary product can flounder very long, and it seems to me that it is logical, and not false optimism, to predict that in the long view the industry will have a history of increasing usefulness, efficiency and the reasonable prosperity which must always flow therefrom."

Writing of 1927 Mr. Dawes said, "Developments in the last year have shown the most unusual progress in the ability of oil men to co-ordinate their activities and operations in a helpful way and to do so without running counter to the essential competitive policies in which our government is committed. It has been a trying year, but I believe the perspective of time will show it has been an exceeding constructive year."

Mr. Dawes made a comparison of oil with agriculture, showing the resultant periods of bumper crops and low prices, and that in such a situation it was natural to call on the government for help. But he wrote that "God and the government can always help, but the government, like the Almighty, helps best those who help themselves."

"The problem of securing the maximum of co-operative achievement without resort to governmental coercion or monopolistic control is not a simple one and not one that will be solved by the application of a formula," he wrote. "It is one which has been met and reasonably solved by other industries without violation of the American instinct of independence and in my opinion the oil industry can do what others have done and do so with reasonable expedition."

Roxana Buys Plant Site In Houston District

HOUSTON, Jan. 5.—Roxana Petroleum Corp., subsidiary of Shell Union Oil Corp., which in turn is the American holding company for the Royal Dutch-Shell group, officially confirms the exercise of option on 650 acres of ground for a plant site in the Deer Park area, along the Houston ship channel.

The taking of an option on this tract was reported exclusively in the Dec. 21 issue of NATIONAL PETROLEUM NEWS. The company has made no announcement of plans for immediate construction, although the purchase is taken generally to mean that eventually the Roxana will build a major refinery on the Gulf coast site.

Hearing On Piqua Case Feb. 7

CLEVELAND, Jan. 9.—Hearing of the Piqua, O., ordinance case which requires posting of gasoline gravity and distillate range at service stations in Piqua has been set for Feb. 7 in the U. S. District Court at Cincinnati. Standard Oil Co. of Ohio is attacking the validity of the ordinance. The hearing will be before Judge Smith Hickenlooper.

Correction

In the issue of January 4, page 18, was given a tabulation showing monthly and annu al average spot market prices for principal refined products. The table as published contained a number of minor errors in the prices as taken from the records of National Petroleum News. For that reason the entire table is republished with corrected average prices.

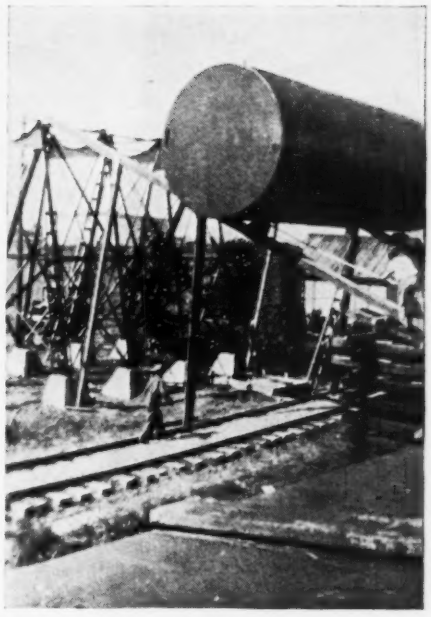
Comparative Average Spot Market Prices for Principal Refined Products

Quoted in Cents per Gallon (except Fuel Oil) Group 3, for 1926 and 1927. Based on Weekly Quotations as Published in National Petroleum News

	64-66, 375 E.P. Gasoline		58-60 U.S. Motor Gasoline		41-43, W.W. Kerosene		38-40 Straw Distillate		32-36 Straw Gas Oil		24-26 Fuel Oil $ per Bbl.		
	1926	1927	1926	1927	1926	1927	1926	1927	1926	1927	1926	1927	
January	12.328	10.663	9.860	9.100	5.531	5.988	4.031	5.225	3.687	4.388	1.269	1.278	January
February	13.000	9.875	10.438	8.328	6.500	6.078	4.000	4.765	3.734	4.375	1.200	1.275	February
March	12.250	8.063	10.050	6.859	6.750	5.188	4.187	4.031	3.938	3.969	1.240	1.244	March
April	12.266	7.219	10.250	6.437	7.203	4.453	4.578	3.313	4.234	2.875	1.412	1.087	April
May	12.953	7.125	11.750	6.550	10.00	4.400	4.641	3.225	4.125	2.775	1.365	.928	May
June	12.413	7.469	11.550	6.797	8.038	4.234	4.525	3.219	4.000	2.688	1.262	.909	June
July	12.156	7.656	11.172	7.141	6.531	4.125	4.641	3.359	4.047	2.750	1.240	.903	July
August	11.963	7.263	11.138	6.575	8.625	4.125	5.350	3.275	4.287	2.600	1.375	.878	August
September	11.750	7.031	10.781	6.203	8.969	4.250	5.719	3.188	4.313	2.563	1.450	.863	September
October	11.078	7.113	9.953	6.188	7.141	4.613	5.734	3.238	4.313	2.600	1.381	.878	October
November	10.663	7.063	9.200	6.109	6.600	4.609	5.375	3.313	4.313	2.625	1.322	.822	November
December	10.859	7.044	9.344	6.016	6.312	4.484	5.375	3.313	4.484	2.531	1.297	.806	December
Average	11.973	7.799	10.457	6.859	7.350	4.712	4.846	3.622	4.123	3.062	1.318	.988	Average
Decrease from 1926		4.174		3.598		2.638		1.224		1.061		0.329	
Per cent Decrease		34.86		34.41		35.89		25.26		25.75		24.96	
Per cent Decrease in Posted Price of 36 Gravity Crude				34.05									

How To Install Storage Tanks At Bulk Plants and Service Stations

By Roger B. Stafford
N. P. N. STAFF WRITER



Rolling a tank to a high steel standard. Note braces under inclined timber and large wooden blocks that are kept back of tank. Cable by which tank is being pulled upward, is faintly visible to the left

CLEVELAND, Jan. 7

HOW should an underground tank for gasoline be constructed and how should it be installed? What are good ways to set up aboveground tanks?

These are questions that have been raised by the use of larger underground tanks at many service stations and even at bulk plants when bulk plants are in or near congested town districts. Many jobbers are still having trouble in installing large aboveground tanks. Herewith we give word and picture answers to many of the questions.

National Board of Fire Underwriters' requirements are that underground tanks of 1,101 to 4,000 gallons' capacity shall be 7 U. S. standard guage; from 4,001 to 10,500 gallons capacity shall be of ¼-inch material; 10,501 to 20,000 gallons capacity of 5/16-inch plate, and 20,001 to 30,000 gallons capacity of ⅜-inch plate. Material must be tested to 5 pounds hydrostatic pressure. All openings must be on the top of the tank.

With riveted and caulked tanks circular seams shall be single riveted and horizontal seams double riveted, the 5/16-inch plate with ⅝-inch rivets and the ⅜-inch plate with ¾-inch rivets. However, many manufacturers are exceeding the underwriters' requirements and are welding and riveting their products for underground installation.

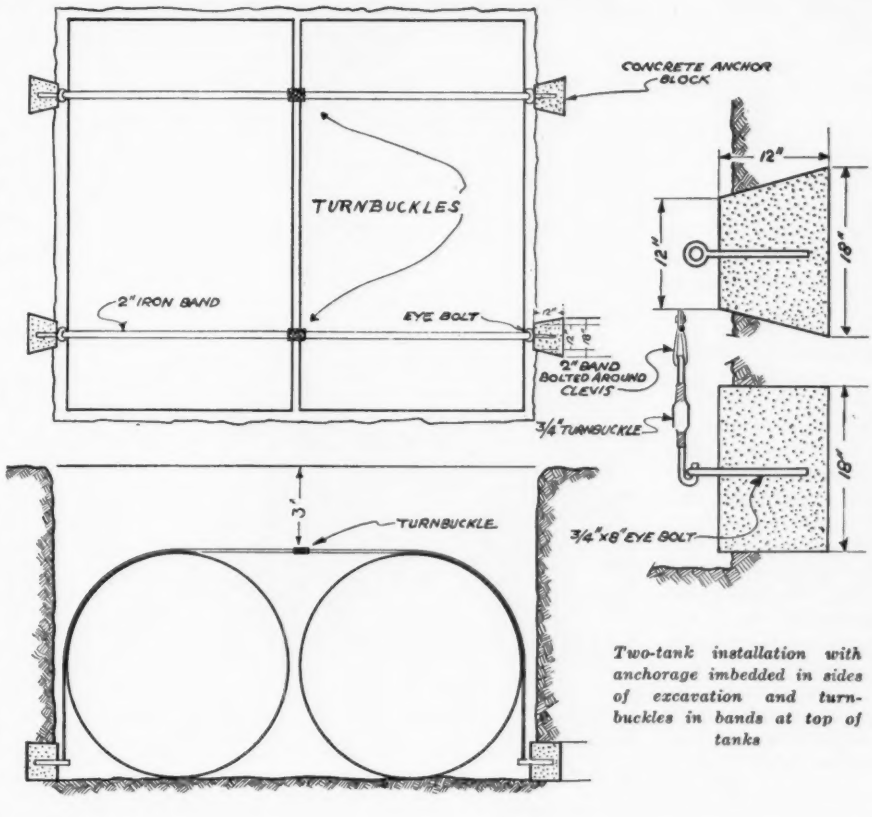
Some manufacturers do not favor large underground tanks and do not recommend them except where limited space and nearness of buildings on other property make it necessary. This necessity seems to be increasing in many communities where it is desirable to carry a large inventory of gasoline at service stations or to equip a close-in bulk station.

The hole for the tank should be excavated deeply enough for 3 feet of dirt to be placed over the tank, say manufacturers of the tanks. Care should be taken to keep water out of the hole until the tank is in position, otherwise the sides and ends of the hole may cave in and make further excavation necessary.

The tank may be placed directly on the ground, on a bed of sand, or on concrete cradles when it is necessary to anchor the tank to prevent it from floating. One manufacturer says soft clay soil is the best for underground tanks. Clay is inert chemically and when packed tightly about a tank helps to keep out water.

NEVER USE CINDERS OR SLAG, authorities say. Cinders and slag contain sulphur and, with ground water, form sulphuric acid which will corrode the steel.

Whether a tank should be anchored is a subject many oil men are puzzled about



Two-tank installation with anchorage imbedded in sides of excavation and turnbuckles in bands at top of tanks

Underground tank installation, not anchored, in which earth may be heaped over tanks. The picture is of a bulk station at Springfield, Ill.

when they decide to put in underground tankage.

"Anchoring the tank is not always necessary," E. C. McDonald, of the construction department of the Leader Iron Works, Decatur, Ill., told NATIONAL PETROLEUM NEWS. "Where there is an excess accumulation of water, however, it is a good plan to make sure that the tank will stay by providing anchorage of some sort. Steel bands can be used. Turnbuckles may be placed low at the sides but in practice on a two-tank job we usually use just one turnbuckle on the top between the two tanks.

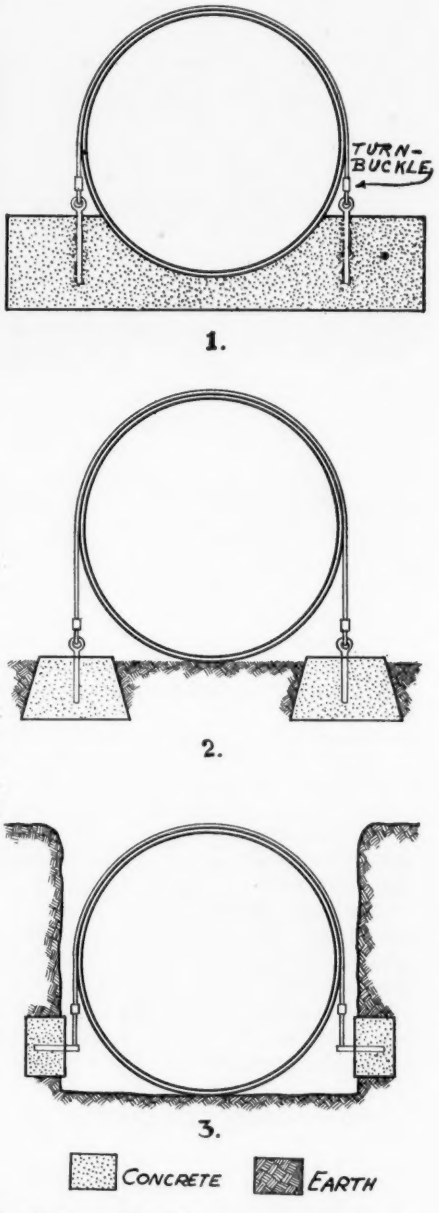
In case the person installing the job feels he would prefer to anchor to regular concrete footings beneath the tank we recommend pouring a solid concrete mat under the entire tank and then pour about three or four concrete saddles on top of the mat. The tank will then rest in these saddles and holddown bands can be anchored to the sides of the saddles."

"Anchorage is only absolutely necessary where water is encountered in sufficient quantity to float the tank," said Joseph C. Winslow, manager of sales promotion of the Graver Corp., East Chicago. "Sometimes tanks are set on concrete saddles and anchored to the saddles with bands; sometimes a block of cement is placed on each end of the bands, and sometimes blocks of concrete are embedded in the sides of the excavation to which the bands are attached. If the tanks are placed in a concrete vault they are accessible for paint and repairs but this type of installation is very expensive and seldom used."

Setting the tank probably offers much less difficulty than in setting above ground tanks. If a hoist is available or a steam shovel, if the tank is not to large, the job is simple. The tank may be placed in a chain or rope sling and lowered into place, great care being taken not to rupture any of the seams.

A method of rolling the tank into place used by one tank company is as follows: The tank is rolled to the side of the hole and a sling of ⅝-inch steel cable is rigged to each end of the tank by looping around it. The bottom end of each cable is anchored to some object back of the tank, such as a tree if one is available. If none is available a "dead man" may be sunk in the right position. The top end of each cable is anchored to a double block and falls, the other end of the block and falls having been anchored. Lead ropes from the blocks should be snubbed around a tree or post. Five men can hold the lead rope and gradually ease the tank into position, the company states.

Setting a vertical tank in which operation use is made of the rise in the ground as shown at the right of the picture. The hoisting cable was attached to the top of the tank, the bottom of the tank braced to the concrete footing, guys set to prevent dangerous side swing, and the tank then pulled to its upright position.



1. Underground tank on concrete saddle to which anchoring bands are attached with eyebolts. 2. Anchorage by means of concrete blocks in bottom of excavation. 3. Anchorage by means of concrete blocks in side of excavation

Advantages of underground installations are lower insurance rates, less evaporation, space saving, and gravity unloading of tank cars where such unloading is not prohibited under fire regulations.

Disadvantages are that they are harder to reach for repairs, painting is impossible, and cost of installation larger.

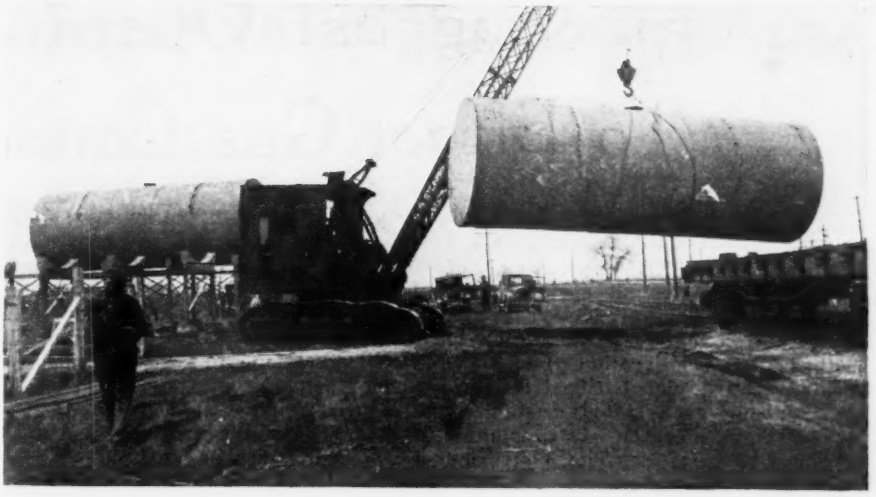
All companies urge that all tanks should be coated with a heavy

asphaltum paint or a mixture of asphaltum and cement before the tanks are set. One company told NATIONAL PETROLEUM NEWS it has excavated tanks that have been buried 25 years and found them to be in perfect condition.

The accompanying sketches show installations of single tanks and two tanks underground with anchorages. One picture shows a three-tank installation underground without anchorage and which will be covered with a mound of earth.

Tank manufacturers have not noted any definite trend toward use of larger storage tanks at service stations, several have told NATIONAL PETROLEUM NEWS. Although the expense is greater to install large storage than small storage, there are several advantages in having larger tanks at busy stations. Large storage permits lower average delivery costs. Some companies that truck their gasoline to service stations say they can compete successfully with the bulk storage service stations because they have been able to reduce hauling costs to less than ½ cent a gallon. They are able to attain this low hauling expense only because they are able to make large dumps at their own stations or customers' stations.

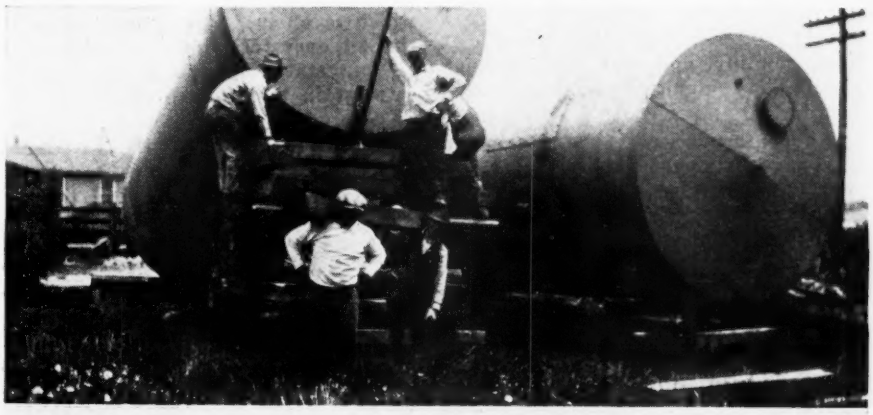
Fire restrictions have prevented some companies from installing larger storage at busy stations. The model ordinance of the National Fire Protection Association provides that if underground tanks are within 10 feet of any "important building" and the top of the tank is higher than the lowest floor or basement of the building the storage limit shall be 550 gallons. If the tank's top is lower than the building's lowest floor or basement the limit shall be 2,000 gallons. If the tank is 20 feet away from the nearest important building the limit is 5,000 gallons; if 25 feet away 15,000 gallons; if 30 feet away 20,000 gallons; if 40 feet away 50,000 gallons, and 50 feet away an unlimited quantity. A tolerance of 10 per cent is allowed in tanks of less than 150,000 gallons' capacity.

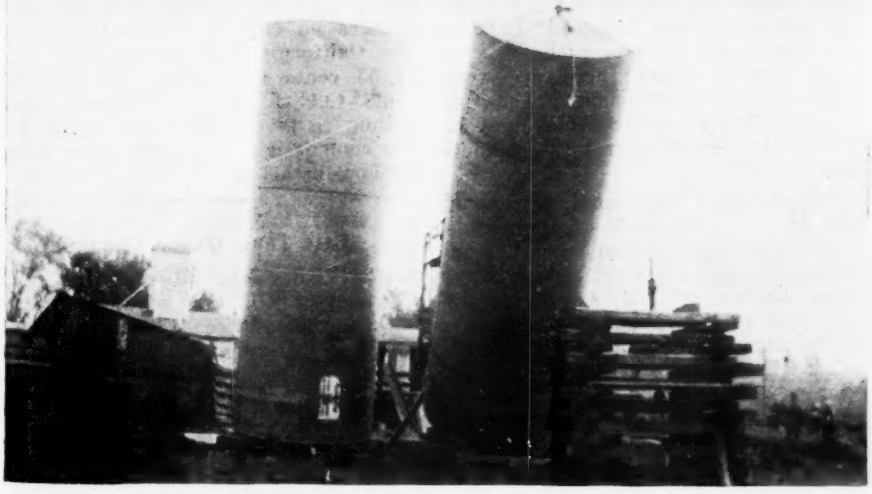


An aboveground installation that requires little ingenuity but great care

When a tank is buried beneath a building it shall be lower than the lowest part of that building and its capacity is limited only in respect to other buildings as given in the foregoing paragraph. All underground tanks shall be covered by at least two feet of earth, or a cover of 12 inches of earth and 6 inches of reinforced concrete. Where a tank cannot be entirely buried, it shall be covered with earth at least 2 feet with a slope on all sides not steeper than 1½ feet horizontal to 1 foot vertical.

Of course, some of the larger cities have altered the model regulations in regard to gasoline storage in congested districts but except where a tank must be buried below the lowest floor or cellar of a building on an adjoining lot it is possible to enlarge gasoline storage facilities and cut hauling costs by using larger trucking units.





Railroad ties, a large jack and strong muscles start tops of these tanks on their upward journeys. Cables and pulling complete the job

Acknowledgement

CREDIT for the pictures published with this article is due the Leader Iron Works, Decatur, Ill., and credit for the sketches, the Graver Corp., East Chicago, Ind., and Leader Iron Works. Engineering and sales departments of these two companies supplied many of the details about tank installations incorporated in the article.

ABILENE, Texas, Jan. 8.—Fisher county's commercial oil well will be completed by The Texas Co. as soon as it can get a string of five inch pipe on the ground to case off about 80 feet of open hole. After this string is set a swabbing test will be made to determine its value.

Governor Suggests Operators Committee To Effect Gas Conservation

Staff Special—By Telegraph
SAN FRANCISCO, Jan. 9

A COMMITTEE consisting of three to five oil operators experienced in production and a representative of the state, to study methods of conservation for California was the plan outlined by Gov. C. C. Young at a closed meeting of oil operators and the state committee here last week. The plan was adopted by the conference.

The committee in turn would keep in touch with field conditions through sub-committees in each producing era. These sub-committees would meet each week, discuss specific producing problems and turn in a copy of the minutes to the main committee which would be in session once a month. Size of the sub-committees would depend on the extent of the producing areas. The governor suggested that sub-committees vary from three members in fields where three companies operated up to seven members in such fields as Long Beach.

Continuation of the present state board was recommended by the governor, at least until the next session of the legislature. The present board is not technical, the governor said, and must be in a position to obtain accurate knowledge of production problems.

Following is the text of the governor's suggestions as presented to the Conference of the Oil Operators and the State committee:

"I feel convinced that the oil industry as a whole is exceedingly desirous of conserving not only natural gas, which is now being wasted in such large quantities, but also the oil itself, in order that as many years as possible may elapse before this immensely valuable source of wealth shall be lost to California.

"I feel convinced also that those in the oil industry will agree with me that all proper conservation of this kind is of vital importance to the industry no less than to the public. It is a problem where there is no lack of interests, and which all of us are mutually concerned in solving.

"It would seem reasonable to believe that it would be difficult to agree upon general regulations for oil production which would be applicable in every case or in every field. I should imagine that producing problems, as to both gas and oil, are largely individual problems, which should be studied and solved in the respective fields where they occur. I believe, therefore, that there should be formed, in each of these fields, committees from the oil operators themselves, who in conjunction with representatives from our own state department of natural resources, shall study those specific problems, and offer to a more general board or committee suggestions for their solution. My suggestion, in brief, would be along the following lines:

"Our present state board or committee should continue, at least until the meeting of the next legislature. This board, however, is not technical, and is naturally largely dependent for its information and policies upon either the state division of mines or individuals in the oil industry. It is obvious that the board must be in a position to obtain authentic and first hand detailed information as to problems of oil production.

"I should accordingly suggest that the operators be requested to form a committee of from three to five members, all of whom are experienced in the oil and gas producing problem of the state as a director of production, production manager, geologist, or in some equivalent capacity. I should join with this technical committee our own chief of the bureau of oils, or his representative. I should suggest that they meet at least monthly, and that their findings should be submitted to our state board.

"In conformity with the suggestion of an earlier paragraph of this letter, I would also suggest that this main producers' committee should in turn form sub-committees in the various producing fields of the state, particularly those concerned with the gas problem. Among these I have in mind such fields as Long Beach, Ventura, Seal Beach, Taft and the like. I think that these committees should range in size from three members in fields where only three main operating companies are involved, to possibly seven members in such fields as Long Beach, where there are very many operating companies. The size of these field committees may best be left to the main operators' committee.

"As already suggested, I should like to see upon each of these subcommittees some chosen from the operators, some representative of our state bureau of oils as chosen by the chief of that bureau. Those subcommittees or field committees, I think should meet if possible about once a week, for the purpose of considering the specific producing problems of their respective fields, and the methods of conservation which may be most wise and effective.

"These committees would be in a position to study each individual flowing well, and determine whether or not it is being produced economically. It could be determined, for instance, whether a maximum of oil is being lifted with a minimum amount of gas, or whether, on the other hand, there was an undue wastage of gas in the production. In this latter case, the committee would be in a position to give intelligent consideraiton to possible production curtailment, with fairness to all the various operating companies in the field.

"Copies of the minutes of these sub-committee meetings would then be sent to the main operators' committee, who would in this way be kept constantly in touch with the problems of all fields, and thus be in a position to supply the necessary information and recommendations, both to our state board and to the officials of the various oil companies with whom they are working.

"Please regard these suggestions as merely tentative. I am anxious, however, as soon as possible, to see some kind of machinery set to work to help bring about that conservation which is of such great importance to the oil operators and the public, and to our state administration with its interest in the welfare of both."

I.C.C. Authorizes Asphalt And Road Oil Rates

(By Telegraph)

WASHINGTON, Jan. 10.—The Interstate Commerce Commission Monday authorized transcontinental railroads to establish rates on liquid asphalt and petroleum road oil of 60 cents to Kansas City, and 65 cents to St. Louis. This was done against the protest of eastern railroads and refiners on Gulf and Atlantic coasts. The California refiners wanted a rate of 55 cents to Kansas City and 60 cents to St. Louis. Railroads were willing to give them those rates, but the commission would not allow rates so low.

Late Tank Wagon Change

DENVER, Jan. 10.—On Jan. 10 Continental Oil Co. advanced tank wagon and service station prices of gasoline ½ cent at Butte, Mont., both to 22.5 cents, including 3 cent state tax.

* * *

DALLAS, Jan. 10.—On Jan. 3 Magnolia Petroleum Co. reduced t.w. price of kerosene 2 cents at Fort Smith, Ark., to 10 cents.

The Orifice Meter for Measuring Gas; Its Installation and Care

By R. A. Keans*
and
R. N. Moore*

Presented at December Meeting, California Natural Gasoline Association, Los Angeles

IN THE natural gas and gasoline industry of today, gas measurement plays an important part. Just how important is not ordinarily realized until one stops to reflect on the frequent reference made to given volumes of gas. Little thought is usually accorded the method used to determine the volumes mentioned or the difficulties which may have been encountered in their determination.

In making this statement we, of course, have in mind only the personnel of the industry not directly concerned with the installation, operation, or maintenance of measuring devices.

It might not be amiss to stress somewhat the need for accurate gas measurements. During 1926 the total receipts of gas by the major wholesale distributors in southern California were approximately 66 billion cubic feet, which, conservatively, had a cash value of $6,600,000. Since the major portion of this gas was produced from properties under lease, we feel safe in saying that an average of one-sixth of this sum, or over a million dollars, was required to be paid in royalties.

In connection with the production of natural gasoline, of which there were over 375 million gallons during 1926, accurate gas measurements figure largely, since the major portion of all natural gasoline is extracted from gas produced on leased properties, and consequently requires accurate apportionment on a quantity-quality basis to insure the payment of royalties to the proper recipients.

NEITHER should we forget that future policies, as regards natural gasoline plant investment, are largely dependent on gas measurements upon which gas production decline curves are based, and that such measurements likewise form the basis for various city, county and state taxes, running into considerable money.

In considering the various types of gas meters most prevalent in the wholesale gas and natural gasoline business, we find that the combination of the differential pressure recording instrument with an orifice in the line, the whole being commonly known to the industry as the orifice meter, is most widely favored. This is due to the flexibility of range afforded, since by simply changing static pressure springs and orifice sizes, volumes of gas ranging in quantity from a few thousand to millions of cubic feet, and in pressure from a few pounds to hundreds, can be measured by the same instrument.

In view of this prevalence of the orifice meter, we have confined this paper to a discussion of this type instrument, but we might mention in passing that the dial type volumetric meters, either positive or proportional, are much better suited for certain classes of measurement. We have in mind instances where the conditions of flow are uniform from day to day and especially in such cases where the volume is not required to be known daily.

In these instances a reading of the dial may be taken at regular intervals, such as the last day of each month, and the volume of gas metered computed by subtracting the immediately preceding from the latest reading.

ORIFICE meters, in the common sense of the name, may be segregated into three divisions, but the use of the orifice plate is essential to all three, the classification being dependent on the type of recording element used. We may classify the three divisions as the mercury float type, electrical resistance type and the spring type. Although the spring, or diaphragm type, was the first used, it has rapidly been replaced by the mercury float type until we find this principle almost universally used in the industry today.

The mercury float type evolved from the original mercury U-tube, in which pressure applied to one leg of the tube causes a depression of the mercury in one side and a corresponding rise in the other side, the resultant difference in levels being measured in linear inches of mercury and converted into inches of water for purposes of computing gas volumes.

The mercury float type orifice meter of today embodies this principle in that the construction of the instrument is such that the elements of the U-tube are contained, and in the part corresponding to one leg of the old U-tube a metal float rides on the mercury. The fluctuating differential pressure, as gas passes through the line at varying rates of flow, causes a rise and fall of the mercury, and the resultant movement of the float actuates a recording pen on the chart.

MUCH could be written concerning the evolution from the first crude recording instrument to the precisely made one of the present era; however, it is not deemed advisable in this paper to deal to any great extent with the construction of the various makes of recording instruments of today. Suffice it to say that they all contain the elements for causing, registering and recording differential pressures.

Since the static, or prevailing line pressure has a direct hearing in the computation of volumes, it was a comparatively simple conversion from the Bourdon tube indicating pressure gauge to the present helical spring type recording gauge.

The earlier instruments of this sort used in conjunction with the differential pressure recorder were housed in separate cases, but the need for a compact instrument brought about the present type combining the differential and static pressure recording elements in a single case, using two pens with differently colored inks to enable the chart reader to differentiate between the records.

Although the orifice meter is a mechanical device comparatively simple in nature, it does require a certain amount of intelligent handling. A novice would probably encounter a number of apparently unexplainable difficulties, a few of which, together with our version of the solution therefor, will now be mentioned.

Much thought should be given to

*Union Oil Co. of California.

proper location in a contemplated orifice meter installation, as it has been found by experience that the accuracy of meters located too close to compressor intakes or discharges is affected by pulsating flow. It is also the teaching of experience that the best results obtain when a straight run of pipe of approximately 20 feet precedes and follows the orifice plate; this because the turbulent action of gas caused by its passage through valves, regulators, elbows, etc. also has a noticeable effect on the accuracy of measurement.

Mercury float type differential recorders must always be set absolutely level to prevent the float rubbing on the walls of the mercury chamber, and thus hindering the registration of proper differential.

IT IS considered not the best practice to locate the recording instrument at any great distance from the orifice plate, because the sensitivity of the recording element is deadened in that too much time elapses between the changes of differential pressure at the orifice and the receipt of consequent impressions at the recording instrument. If, however, such practice is considered necessary, for any of a number of reasons, it is well to provide larger than the standard hookup lines and fittings.

In the care of orifice meters, attention should be given to climatic conditions because much of the grief of the meter inspector and chart reader is caused by charts getting wet in the rainy and foggy season, causing the ink records to run and blur, and in cases of severe dampness charts have a tendency to curl and warp and thus prevent the pens leaving any except a sporadic record of the varying impressions indicated by the differential and static pressure elements.

During the dry season the meter inspector has comparatively little to cause him worry, and except for an occasional thorough overhauling of the instrument and cleaning of the mercury, which can be done with nitric acid, the orifice meters themselves will give service day in and day out that reflects credit to their makers.

At the overhaul periods the small pipe lines leading from the instrument to the pipe or flange taps should be blown out to insure against an accumulation of sediment forming a constriction which might affect the accurate transmission of differential pressure changes to the recording device. Valve stems on these small pipe lines should be carefully watched for leaks since a small leak on one side of the instrument or the other has the same effect as a change in the differential pressure, causing an erroneous registration on the chart.

In the measurement of wet gas it is quite often the case that distillate will accumulate in the mercury chamber of the recording instrument. This should be guarded against by as frequent removal as necessary because the additional weight of the distillate on the mercury column throws the meter out of calibration. A certain measure of satisfaction has resulted from the method of inserting a 2 by 6-inch chamber filled with excelsior in both sides of the meter hookup, the excelsior acting as a scrubber and preventing a large part of the condensate reaching the mercury pot. It is advisable, of course, to replace the excelsior at regular intervals.

Orifice plates should be very carefully made and the orifice itself should be accurately bored to the thousandth part of an inch and most meter supervisors follow the practice of computing a special air coefficient if an orifice is more than five thousandths larger or smaller than the size for which the coefficient was originally computed. It is likewise important that the orifice should be machined at exact right angles to the upstream side of the orifice plate, that is, the side facing the direction from which the flow of gas is coming.

It is equally worthy of especial attention to ascertain that the center of the orifice is in the exact center of the pipe line. Orifice plates should be removed and inspected occasionally and if found to be eroded should be replaced immediately. We know of instances where an eroded orifice has caused a lowering of the correct differential of as much as 2 inches of water.

This, depending on the size of orifice in use, can cause a very considerable percentage of error in the measurement. This trouble is of course more prevalent where certain substances, sulfur, for example, are present in the gas and can be overcome to a great extent by the use of plates constructed of metals which are impervious to such action.

SPECIFIC gravity of the gas being measured must be considered and since it is "subject to change without notice," specific gravity determinations should be made as often as convenient, preferably not less than once each month. This is especially true of gas produced in a comparatively new field, as gas from an older field is usually found to be of fairly constant density.

Recent practice has developed that certain makes of specific gravity recording instruments are now considered dependable and accurate and if the installation be of sufficient permanence and importance possibly the cost of such an instrument might be warranted.

Temperature should be treated in a similar manner, except that temperature fluctuations are somewhat dependent upon climatic changes and upon whether the gas measured is flowing through a buried or naked line. For test or other work requiring the highest degree of accuracy, barometric pressure should be considered and proper allowance made in computing measured volumes.

Individual well measurement can be accomplished much more feasibly with the orifice meter than by the somewhat more common methods of using the Pitot tube, or orifice well tester. The orifice meter, of course, requires that proper hookup be provided, consisting of an orifice flange with proper connections for setting up the meter. In the case of wells having a large gas production it is advisable to maintain a meter on the line constantly; however for small producing wells, a meter set on the line at periodic intervals should give a sufficient record of gas production for most purposes, it being advisable at all times to have a lease meter constantly measuring the total lease production.

THE orifice meter method is especially adapted to securing measurements of wells producing under a vacuum. To use the Pitot tube or other open flow method requires blowing the well down, which sometimes takes considerable time with its resultant waste of power, and then measuring the gas flow under non-operating conditions. The measurement may take a couple of hours time or more if the well be a "header," that is, a well from which the gas flows non-uniformly, and during this time the production blows to the air. It will also be found that the total lease meter will give a figure sometimes considerably in excess of the total of the individual open-flow measurements, the reason being that the wells produce more gas under vacuum, which is recorded by the lease meter, but does not show up in open-flow atmospheric measurements.

By measuring the individual wells with an orifice meter under actual operating conditions, there should be no great difference between the sum of individual measurements and the total lease meter.

The causes of pulsating flow, which, incidentally, is one of the meter man's chief worries, are numerous. The principal cause is compressor operation on a line and in this case pulsation is noticeably evident both on the intake and discharge lines. Other causes include the natural heading of wells, rhythmic operation of check valves and regulators, and the flow of gas through valves and other line fittings.

In order to solve the pulsation problems as they arise, it is first necessary to distinguish between the vibration of the pen arm, such as that caused by the rapid opening and closing of a check valve, for instance, and the fluctuating differential pressure caused by turbulent flow. Pen arm vibration may be cured by chang-

ing the location or size of check valves or other fittings, or by changing the regulator adjustment if the vibration be from such a cause.

The rapid rising and falling of the differential pen which is caused by agitated flow however, must be treated somewhat differently to insure accurate measurement. In some instances a baffle plate, constructed of one-quarter inch material having a number of small holes of one-quarter inch diameter, has been known to solve the pulsation problem and produce a comparatively steady registration on the chart.

The number of holes in such a baffle plate should be governed by the size of the orifice in the installation, and the total area of the small holes should be slightly less than the area of the main orifice, thus causing a slight back-pressure at the baffle plate and preventig the full fluctuating line pressure from impinging on the orifice plate. The baffle plate can be one or two joints of pipe ahead of the orifice, depending on local pertinent conditions. This arrangement has a tendency to remove any swirling or impulsing effect from the flow before it reaches the orifice and has given very satisfactory results in a number of cases.

So-called straightening veins have been used with a certain degree of satisfaction to assist in measuring turbulent flow. As the name implies, these veins give the effect of straightening the flow of gas by removing eddying and swirling. These can be constructed in many ways, but to describe them we will say that they resemble in appearance several pieces of corrugated sheet-iron of some predetermined length rolled within each other so that the corrugations do not mesh and the whole placed in a joint of pipe preceding the orifice in the line.

THE use of bushings, or check valves, in the recording instrument to retard the rapid rising and falling of mercury is not usually satisfactory. While this method does tend to produce a steady record on the chart, it is generally found that the record so produced is not a true average of the peaks and hollows of the former irregular record. It is quite obvious therefore that the securing of a steady differential pressure record on the chart does not necessarily indicate that the measurement is true.

The same effect can be secured by throttling the valves on connecting lines between the recording instrument and the line, and what is accomplished is simply a deadening effect on the instrument of the true line pressure fluctuations. Large chambers connected into the meter hookup lines also produce this deadening effect on the meter, but do not guarantee accuracy, while providing a steady differential chart record. However, if chambers of sufficient size can be installed in the line on which the meter is operating, so that the effect is one of pouring the turbulent gas into a large reservoir and then drawing out of the reservoir at a regular even rate, there is no apparent reason why correct measurements should not result. The swirling, eddying or impulsing loses its identity in the large chamber and the gas measured at its outlet has all the characteristics of steadily flowing gas. This method is impractical, of course, where the flow is so great as to make prohibitive the size and cost of the chambers which would be required.

It has been our experience that line connections tend to give more accurate readings than flange connections in the measurement of a pulsating flow, although the reason for this is not known. In all probability, however, it is due to the fact that the farther the line taps are removed from the orifice plate, naturally the less accentuated would be the impulses.

WE HAVE in mind an instance of measuring the intake to several low-pressure compressors which may be worth mentioning here. The arrangement was one where several field gathering lines collected raw gas and delivered it into a common header to which the compressor intake lines were connected. The measuring apparatus consisted of two meters installed on the intake lines between the compressors and the header.

The compressors were pulling from 14 to 16 inches of mercury vacuum through 10 and 12-inch lines. The volume of gas handled was approximately 10,000,000 cubic feet per day. It was found that the two intake meters read consistently low, this being proved by the meters at the absorbers which re-measured the raw gas after the same was discharged from the compressors and had passed through some cooling coils. Considerable condensate was collected in these coils and in spite of this and the normal compressor shrinkage, the absorber meters read consistently higher than the intake meters.

Located not more than 20 feet from the compressors themselves, and operating on wet gas, there was considerable pulsation and the record was difficult to compute. These meters were removed and in their stead six separate installations were made on the raw gas lines from 100 to 200 yards from the compressors and accurate measurement resulted. It is believed that the low readings on the two original meters were traceable to a combination of several contributing factors, propinquity to the compressors, fluid in the line, and the high velocity of the gas at those points preventing the true recovery of differential pressures being registered on the chart. It should be said, in justice to those who made the original installation, that the meters were installed over 8 years ago when measurement by orifice meter was not so universally accomplished as now, and consequently little was known of the effect the various contributing factors had on the gas being measured. In addition, the item of investment, which must be considered, was in favor of the original installation, which consisted of only two meters, while the latter installation required six.

It is well known that the accumulation of liquid in gas lines at the low points causes pulsation of the flow. This is simply remedied, however, by the insertion of drips at the proper locations, which, if bled at proper times, will eliminate pulsation from this score.

Denies Threat to Cut Off Pipe Line Connections

(By Telegraph)

SAN ANGELO, Tex., Jan. 9.—W. S. Farish, president of the Humble Oil & Refining Co., denied here today that the Humble had threatened to cut off pipe line connections of west Texas producers who failed to sign three-year crude oil sales contracts sought in the territory, as reported in a southwestern oil periodical last week.

Likewise he denied the solicitation of contracts was inspired by the Standard Oil Co. of New Jersey in an attempt to dominate west Texas production.

"The Standard Oil Co. has nothing to do with this move except it is a large stockholder in the Humble company and the move is being made merely to safeguard the future security of the Humble Co.," he said. "The crux of the situation is that at present we are taking oil from Independent producers for which we have no use. As everybody knows the overproduction of oil has reached enormous proportions.

"We are simply saying to the Independent producers that if we are taking their oil in a time of bad business we should have their contracts to safeguard us in a time of possible good business. We are not securing contracts by threatening to cut off pipe line connections, but it is obvious we will take care of our own customers first."

Corrections

The article on "Detection of Sulfur in Petroleum and Petroleum Distillates," by F. W. Lane and John M. Devine of the Bureau of Mines, in the Nov. 23 issue of NATIONAL PETROLEUM NEWS, page 53, was presented before the Petroleum Division of the American Chemical Society at the meeting in Richmond, Va., April 11 to 14. This information was omitted when the paper was published.

W. N. Davis is Re-Elected President Of Mid-Continent Association

TULSA, Jan. 7

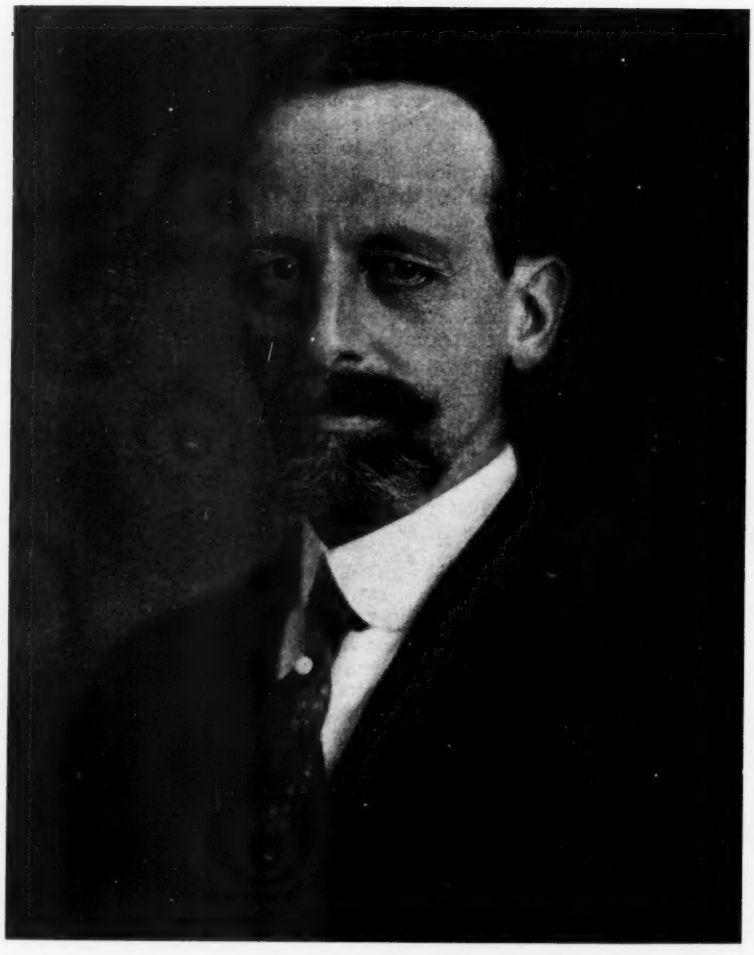
WILLIAM N. DAVIS, vice-president of the Phillips Petroleum Co., again heads the Mid-Continent Oil & Gas Association. At the meeting of directors Jan. 4, attended by representatives of the three chapters of the association, no other name was mentioned for the post Mr. Davis has held for years.

Other officers elected were: W. H. Francis, Magnolia Petroleum Co., Dallas, first vice-president; C. C. Herndon, Skelly Oil Co., Tulsa, second vice-president; M. J. Grogan, Louisiana Oil Refining Corp., Shreveport, third vice-president; Harry H. Smith, secretary and treasurer.

Directors elected J. A. Green, of the Roxana Petroleum Corp., as a member of the board to succeed George S. Rollin of the same company who recently has gone to St. Louis as general manager of Roxana's production.

None of the several conservation movements in the United States was given discussion except that by resolution the directors approved the action of operators in the Seminole district and other committees on curtailment in their efforts to restrict production in the name of conservation and pledged themselves to support and promote such movements so long as they are legal in manner and have true conservation as their objective.

R. R. Brandenthaler, of the Bartlesville station of the U. S. Bureau of Mines, outlined to the directors the study now under way at Bartlesville on flow conditions of oil wells. It is proposed to simulate conditions of natural flow and of flow by gas and air lift. Association directors were impressed with the value of the study, passed a resolution asking the American Petroleum Institute to contribute financial support to the work out of the general research fund and appointed a committee to report on the advisability of the Mid-Continent association lending monetary support.



WM. N. DAVIS

HARRY H. SMITH

Don J. Wallace, safety director for the association, addressed the meeting, telling something of the work that has been done during the past year and outlining plans for 1928. The scope of the safety work is indicated by statistics given by Mr. Wallace. The petroleum safety council distributes posters, holds foremen's meetings and supplies moving pictures on safety. Four hundred and sixty-five locations in 13 states were reached in 1927 with the posters designed by Staff Artist Werner. The total number of posters issued in the year was 20,800.

Foremen were brought together in meetings at 38 field points, the total attendance at such gatherings being 5,748. There are 183 member companies using the safety service.

Directors of the association had been requested to appoint a representative to the American Petroleum Institute committee on public relations. Their choice was Harry H. Smith, secretary-treasurer of the association.

Earlier in the day the annual meeting of the Osage Oil and Gas Lessees Association was held. The chief business was the election of officers and that was quickly dispatched by re-electing the 1927 executive family. R. F. McArthur, of the Barnsdall companies, is president; H. R. Straight, Empire companies, vice-president; W. C. Franklin, Tidal companies, treas. and Harry H. Smith, sec.

Automobile Association Makes Outcry Over Varying Gasoline Prices

By V. B. Guthrie
MANAGING EDITOR

THE American Automobile Association, a national organization of local automobile clubs with headquarters at Washington, has made considerable to-do over the variance in retail gasoline prices over the country.

It recently published an "analysis" of gasoline prices through the United States, based on reports of prices in effect Nov. 22 made by some 800 of its member clubs. It says the work was undertaken because of letters received from individual club members commenting on different prices in the same locality.

According to this report there were 47 different prices Nov. 22, ranging all the way from 10 cents to 27 cents a gallon on what the report calls straight-run gasoline and from 13 to 27 cents a gallon on high test gasoline. The definition "straight-run" is the motor club's, and shows an ignorance of gasoline characteristics that an observer would think would have been remedied in making a report of this nature. What is probably meant by "straight-run" is what the oil industry terms a standard or competitive grade, as distinguished from grades of superior quality for motor fuels sold at a premium.

The A. A. A. report shows no variance in prices in individual cities. One price is given in each instance. This price seems to be the local market as maintained by the principal marketing company in the territory, since it corresponds fairly closely with the service station prices published in NATIONAL PETROLEUM NEWS.

Inferentially, this automobile association report would seem to point a difference between the gasoline retailing business and other retail lines because of 47 different prices for gasoline over the country. Actually this is not true. It is difficult to call to mind a commodity, even those where transportation charges from point of manufacture or supply to point of consumption bear a much smaller relation to the total selling price than in the case of gasoline, where variances in price do not occur.

Even in the case of commodities where the manufacturer attempts to dictate what the selling price to the public shall be, the average shopper of today is familiar with a differing scale of prices in different stores in the same community and even in the same stores, where they are sold one day at the accepted retail price, and the next may figure in a bargain sale to get purchasers into the store in the hope they will buy other merchandise on which the store can make a higher profit. The delivered prices of automobiles vary in almost every town.

The buying public is fickle minded in the case of most commodities. It will either forget the price it paid for the same commodity the last time it purchased, or recognize peculiar conditions affecting the sale in one case as very logically having an effect on the price.

The public never has occasion to forget gasoline prices, however. The price is about the one and only thing regarding this commodity that is continually forced on its attention. That is where the gasoline marketing business differs from most lines.

Drive down the street and the point that is literally forced on your attention, as you pass each gasoline pump, is the price, most conspicuously displayed. Little mention is made of qualifying conditions, such as service or quality of product. The oil industry, in this respect, could well take a lesson from the merchandising tactics of other lines of retailing.

There are other considerations as regards gasoline prices today the American Automobile Association could well have taken into consideration in its so-called price analysis. For one thing, the difference of from nothing to 5 cents in gasoline taxes over the country, has quite a bit to do with the variance in the price to the public. Perhaps it is more than a coincidence that the point the A.A.A. report brings out as having the highest retail prices, Phoenix, Ariz., has a 4-cent gasoline tax, and the lowest, Peoria, Ill., has but 2 cents tax.

Again, the report could have brought out the well known fact that the oil industry is offering, not two grades of gasoline, "straight-run" and "high-test"; but a variety of different grades, selling at premiums of as much as 5 cents over the competitive grade, in an effort to meet the requirements of the new types of high compression cars.

A conscientious analysis of present conditions regarding the retailing of motor fuel would have included some mention of the attempt by gasoline retailers generally to recognize the desires of various classes of purchasers. On the one hand they operate stations located where the product can be most economically handled from storage to the consumer, where the motor car owner must drive out of his way to secure his supply and do without the services many stations offer for his convenience; but where the resulting saving in the price is passed on to him.

On the other hand the industry maintains stations on costly locations convenient to motor car owners, where many services are offered them free, but where the price they pay for gasoline fairly reflects these additional costs.

The A.A.A. itself has made no comment on this variance in gasoline prices over the country as reflecting the forces of supply and demand having full play within the oil industry. Some newspaper comment on the report has. But it must seem to any fair and thoughtful observer that the lower prices prevailing on gasoline, as compared with former years, the increase in number of gasoline stations, and all other facts relative to the oil industry this year reflect nothing else but the full play of the law of supply and demand, to the point where the industry has suffered.

Tests Show West Texas Crudes High In Sulfur, Low Cold Test

MENTION "west Texas crude" and the refinery operating man generally sees a vision of an oil reeking with sulfur, particularly hydrogen sulfide, and extremely hard to handle. So far as we have seen, very little has been published as to the actual character of the crude oil produced in the fields of west Texas. For that reason the accompanying tests on samples of crude from three of the fields in that region should be interesting.

These are laboratory and not refinery tests but they were made by thoroughly competent chemists:

Hendricks Field

Sample from Marland & Murchison No. 1 Grisham-Hunter, sec. 35, block B-5, Winkler county, Texas.

Depth—2613-2655 feet.
A. P. I. Gravity—29.1.
Sulfur—1.48 per cent.
Water—0.1 per cent.
B. S.—0.1 per cent.
Saybolt vis. at 70 degrees Fahr.—81 seconds; at 100 degrees Fahr., 57 seconds.
Cold test—zero.

Atmospheric Distillation
Volume charged, 300 C.C.

Temperature Cut, Degrees Fahr.	Product	Vol. C.C.	A.P.I. Grav.	Yield Pct.
Up to 392	Gasoline	69	54.5	23.0
392 — 527	Kerosene	56	37.1	18.7
	Vacuum Distillation at 40 Millimeters			
Up to 437	Gas Oil	27.7	28.5	9.2
437 — 527	Light Lub. Dist.	27.3	24.6	12.4
527 — 572	Med. Lub. Dist.	18.0	22.2	6.0

A.P.I. gravity of residuum — 14.3

	Gasoline (Stratford)		27.3	
	Gravity	53.4		**Engler Dist.**
	I.B.P.	120		
	E.P.	426		10 — 200
				20 — 240
2000 c.c. chg.	Kerosene (Stratford)		.7	30 — 266
	Gravity	39.5		40 — 286
	Flash	160		50 — 306
	Fire	180		60 — 326
				70 — 340
	Gas Oil		6.5	75 — 356
	Gravity	34.6		
	Flash	180		80 — 366
	Fire	200		85 — 378
				90 — 392
	Wax Distillate		14.0	95 — 416
	Gravity	29.2		E.P. — 426
	Flash	230		
	Fire	270		
	Vis.	45 at 100°		
	C.T.	zero		
	Bottoms		50.0	
	Gravity	17.5		
	Flash	360		
	Fire	415		
	Vis.	117 at 210°		
	Loss		1.3	

Sulfur content of gasoline — .213 pct.
To sweeten gasoline—253 pounds doctor solution per 1000 barrels.

Westbrook Oil Co., (Now Southern Crude Oil Purchasing Co.) Hendricks field discovery, Winkler county, Tex. Sec. 42, block 5, survey 21, depth 2990-3005 feet, sandy lime formation.

A. P. I. gravity—27.3.
Sulfur—1.85 per cent
Water—trace.
B. S.—0.1 per cent.
Cold test—Zero and flowing.
Saybolt vis. at 70 degrees Fahr., 113 seconds; at 100 degrees Fahr., 67 seconds.

Atmospheric Distillation
Volume charged, 300 C.C.

Temperature Cut, Degrees Fahr.	Product	Vol. C.C.	A.P.I. Grav.	Yield Pct.
Up to 392	Gasoline	59	52.6	19.6
392 — 527	Kerosene	56	38.4	18.8
	Vacuum Distillation at 40 Mm.			
Up to 437	Gas Oil	31.4	29.0	10.4
437 — 527	Light Lub. Dist.	38.5	25.8	11.9
527 — 572	Med. Lub. Dist.	22.4	23.1	7.4

A.P.I. gravity of residuum — tar.

	Benzine		16.6 pct.	**Engler Dist.**
	Gravity	54.6		
	I.B.P.	130		10 — 210
Charge, 2500 cc.	E.P.	438		20 — 240
				30 — 250
	Kerosene		10.7	40 — 270
	Gravity	41.3		50 — 282
	Flash	156		60 — 300
	Fire	176		70 — 318
				75 — 332
	Gas Oil		5.5	80 — 342
	Gravity	34.0		85 — 360
	Flash	185		90 — 384
	Fire	210		95 — 404
				E.P. — 438
	Wax distillate		18.6	**Stratford Dist.**
	Gravity	29.4		Yield O.H. — 25.2
	Flash	225		Grav. O.H. —50.6
	Fire	260		
	Vis.	44 at 100°		I.B.P.— 150
	C.T.	zero & flg.		10 — 236
				20 — 268
	Bottoms		48.0	30 — 288
	Gravity	17.2		40 — 306
	Flash	360		50 — 320
	Fire	415		60 — 344
	Vis.	120 at 210°		70 — 358
	C.T.	12		75 — 370
	Color	Black		80 — 380
				85 — 390
	Loss		.6	90 — 403
				95 — 420
				E.P. — 437

Yates Field

California Co. No. 1 I. G. Yates, sec. 34, block 194, Pecos county, Tex.

A. P. I. gravity—29.9.
Sulfur—1.55 per cent.
B. S.—Trace.
Saybolt vis. at 70 degrees Fahr., 85 seconds; at 100 degrees Fahr., 58 seconds.
Cold test—Zero and flowing.

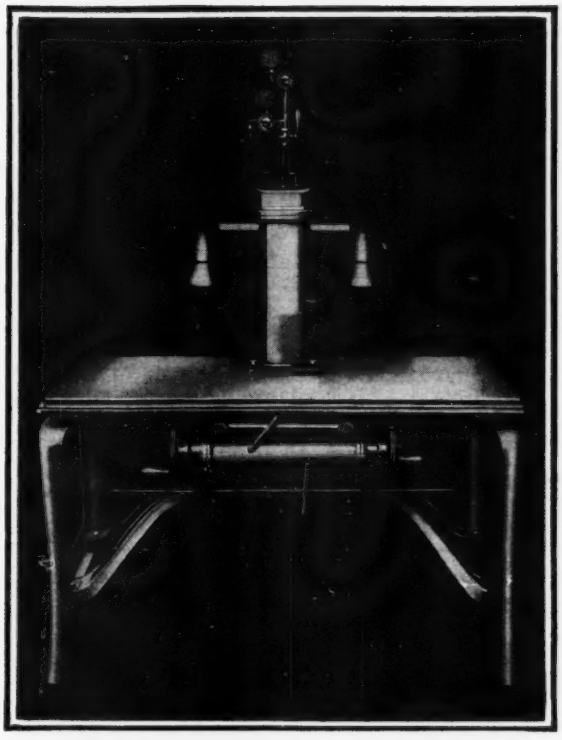
Atmospheric Distillation
Volume charged, 300 C.C.

Temperature Cut, Degrees Fahr.	Product	Vol. C.C.	A.P.I. Grav.	Yield Pct.
Up to 392	Gasoline	70	54.1	23.33
392 — 527	Kerosene	54	38.9	18.00
	Vacuum Distillation at 40 Mm.			
Up to 437	Gas Oil	24	29.4	8.00
437 — 527	Light Lub. Dist.	32	27.3	10.60
527 — 572	Med. Lub. Dist.	24	24.4	8.16

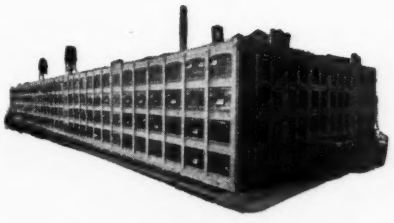
Stratford	Gasoline		28.8 Pct.	
Still Chg.,				
1000 c.c.	Gravity	52.6		
	I.B.P.	140		
	E.P.	439		
				Engler Dist.
	Kerosene		1.3	
	Gravity	40.6		10 — 204
	Flash	130		20 — 236
	Wire	150		30 — 263
				40 — 288
	Gas Oil		8.6	50 — 309
	Gravity	34.4		60 — 330
	Flash	195		70 — 352
	Fire	220		75 — 364
				80 — 376
	Wax Distillate		31.9	85 — 389
	Gravity	26.2		90 — 407
	Flash	260		95 — 428
	Fire	295		E.P.— 439
	Vis.	70 at 100°		
	C.T.	zero and flg.		
	Color	Dark red		

(*Continued on page 45*)

ANNOUNCEMENT



The Fee Process Weighing and Filling Machines



In this plant are produced many of the world's finest automatic machines to meet production needs in the food products, chemical, tobacco and printing industries.

THE American Machine & Foundry Company has acquired the license to manufacture and sell the complete line of Fee Process Weighing and Filling Machines heretofore manufactured and sold by The Lamb Corporation.

To the present and potential users of these ultra-modern automatic machines there are two significant facts to be noted in this announcement:

1. Manufacture and sales will be handled by an organization possessing ample facilities, as evidenced by a background of twenty-seven years of successful work in the design, construction and adaptation of automatic machinery to many varied industries.
2. Laboratory research and development work on these machines to adapt them to new uses will continue under the direct supervision of Mr. Fee himself.

Succeeding advertisements in this series will discuss the application of these machines to various types of work. Meanwhile, let us know your problems, and competent engineering advice will be furnished.

AMERICAN MACHINE & FOUNDRY COMPANY
5502-5520 SECOND AVE., BROOKLYN, N. Y.

AUTOMATIC MACHINERY

Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

Mid-Continent Refinery Operations Week Ended January 6 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	North La.-Ark.	Total Week Ended Jan. 6	Total Week Ended Dec. 9
Plants Reporting	12	28	27	12	79	79
Crude Capacity (bbls.)	92,000	157,200	104,500	54,900	408,600	408,600
Cracking Capacity	30,700	52,600	16,200	22,700	122,200	122,200
Da. Av. Crude Runs	50,219 — 4.5	82,507 — 18.0	64,372 + 5.9	36,327 — 13.1	233,425 — 8.7	271,982
Da. Av. Other Oils	5,673 + 1.1	3,655	4,309 — 32.7	3,061 + 31.3	16,698 + 22.4	9,173
GASOLINE—Gallons						
Stocks, Dec. 30	11,597,000	45,747,000	19,315,000	3,972,000	80,631,000	66,008,000
Prod. 12-30 to 1-6	7,875,000 — 0.2	12,435,000 — 22.3	6,553,000 — 6.2	2,960,000 — 24.5	29,823,000 — 14.3	34,915,000
Ship. 12-30 to 1-6	6,896,000 — 11.3	13,151,000 + 6.0	6,802,000 — 6.1	3,639,000 — 0.9	30,488,000 — 2.0	32,652,000
Stocks Jan. 6	12,576,000 + 8.4	45,031,000 — 1.6	19,066,000 — 1.3	3,293,000 — 17.1	79,966,000 — 0.8	68,271,000
Ratio Sales to Prod.	87.6%	105.8%	103.8%	122.9%	102.2%	93.5%
KEROSENE—Gallons						
Stocks, Dec. 30	3,984,000	7,979,000	2,068,000	624,000	14,655,000	14,548,000
Prod. 12-30 to 1-6	1,379,000 — 10.3	1,622,000 — 34.0	1,477,000 + 9.5	801,000 + 4.0	5,279,000 — 13.6	6,333,000
Ship. 12-30 to 1-6	1,694,000 + 3.9	2,084,000 + 34.6	1,331,000 + 16.4	755,000 + 0.3	5,864,000 + 12.7	6,406,000
Stocks, Jan. 6	3,669,000 — 7.9	7,517,000 — 5.8	2,214,000 + 7.1	670,000 + 7.4	14,070,000 — 4.0	14,475,000
Ratio Sales to Prod.	122.8%	128.5%	90.1%	94.3%	111.1%	101.2%
STOVE DISTILLATE—Gallons						
Stocks, Dec. 30	2,991,000	5,137,000	968,000	46,000	9,142,000	13,236,000
Prod. 12-30 to 1-6	218,000 + 39.7	564,000 — 25.7	228,000 — 19.1	53,000 — 5.4	1,063,000 — 15.2	920,000
Ship. 12-30 to 1-6	1,037,000 +144.0	1,170,000 + 30.3	183,000 — 52.2	20,000 — 70.1	2,410,000 + 35.9	2,428,000
Stocks, Jan. 6	2,172,000 — 27.4	4,531,000 — 11.8	1,013,000 + 4.6	79,000 + 71.7	7,795,000 — 14.7	11,728,000
Ratio Sales to Prod.	475.7%	207.4%	80.3%	37.7%	226.7%	263.9%
GAS OIL—Gallons						
Stocks, Dec. 30	7,710,000	38,863,000	13,785,000	7,418,000	67,776,000	75,929,000
Prod. 12-30 to 1-6	1,328,000 + 1.7	3,739,000 +120.6	1,341,000 + 78.1	1,749,000 + 15.8	8,157,000 + 55.0	5,688,000
Ship. 12-30 to 1-6	1,410,000 + 1.2	6,222,000 +156.6	1,138,000 +110.7	2,594,000 +106.9	11,364,000 +102.5	8,712,000
Stocks, Jan. 6	7,628,000 — 1.1	36,380,000 — 6.4	13,988,000 + 1.5	6,573,000 — 11.4	64,569,000 — 4.7	72,905,000
Ratio Sales to Prod.	106.2%	166.4%	84.9%	148.3%	139.3%	153.2%
FUEL OIL—Gallons						
Stocks, Dec. 30	14,334,000	36,683,000	38,586,000	10,726,000	100,329,000	103,852,000
Prod. 12-30 to 1-6	5,862,000 — 7.6	4,041,000 — 38.1	8,616,000 + 4.4	6,280,000 — 1.9	24,799,000 — 9.9	28,641,000
Ship. 12-30 to 1-6	6,345,000 — 1.0	7,374,000 + 12.7	74,56,000 — 12.8	5,326,000 + 4.9	26,501,000 — 0.3	28,054,000
Stocks, Jan. 6	13,851,000 — 3.4	33,350,000 — 9.1	39,746,000 + 3.0	11,680,000 + 8.9	98,627,000 — 1.7	104,439,000
Ratio Sales to Prod.	108.2%	182.5%	86.5%	84.8%	106.9%	98.0%

Gasoline Produced by Various Methods, Week Ended January 6

	Kansas	% of Total	Oklahoma	% of Total	Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run	4,800,000	60.9	9,165,000	73.7	5,547,000	84.7	1,240,000	41.9	20,752,000	69.6
Cracked	2,503,000	31.8	2,537,000	20.4	749,000	11.4	1,126,000	38.0	6,915,000	23.2
Natural	572,000	7.3	733,000	5.9	257,000	3.9	594,000	20.1	2,156,000	7.2
Total	7,875,000		12,435,000		6,553,000		2,960,000		29,823,000	

+ or — columns are % change over previous week.

Big Reduction Made in Mid-Continent Crude Runs

Staff Special, By Telegraph
TULSA, Jan. 10

STOCKS of all principal commodities were reduced at 79 refineries in the Mid-Continent in the week ended Jan. 6, these plants reported to NATIONAL PETROLEUM NEWS. Reduction in stocks resulted from a sharp reduction in crude runs and not from increased business except in the case of gas oil, stove distillate, and kerosene.

The 79 reporting plants with a still capacity of 408,600 barrels a day or 60 per cent of operating the capacity of the field, reduced runs 22,000 barrels daily average, or 8.7 per cent, to 233,425 barrels. In the week ended Dec. 30 crude runs averaged 255,796 barrels a day. Runs of partly refined oils were increased about 3,000 barrels daily average at all plants to 16,698 barrels.

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Jan. 6. Change in stocks figured from Dec. 9.

GASOLINE

	Gallons
Production	132,066,000
Shipments	120,371,000
Net change in stocks	+11,695,000
Ratio sales to production	91.1%

KEROSENE

	Gallons
Production	24,010,000
Shipments	24,415,000
Net change in stocks	—405,000
Ratio sales to production	101.7%

STOVE DISTILLATE

	Gallons
Production	4,833,000
Shipments	8,766,000
Net change in stocks	—3,933,000
Ratio sales to production	181.4%

GAS OIL

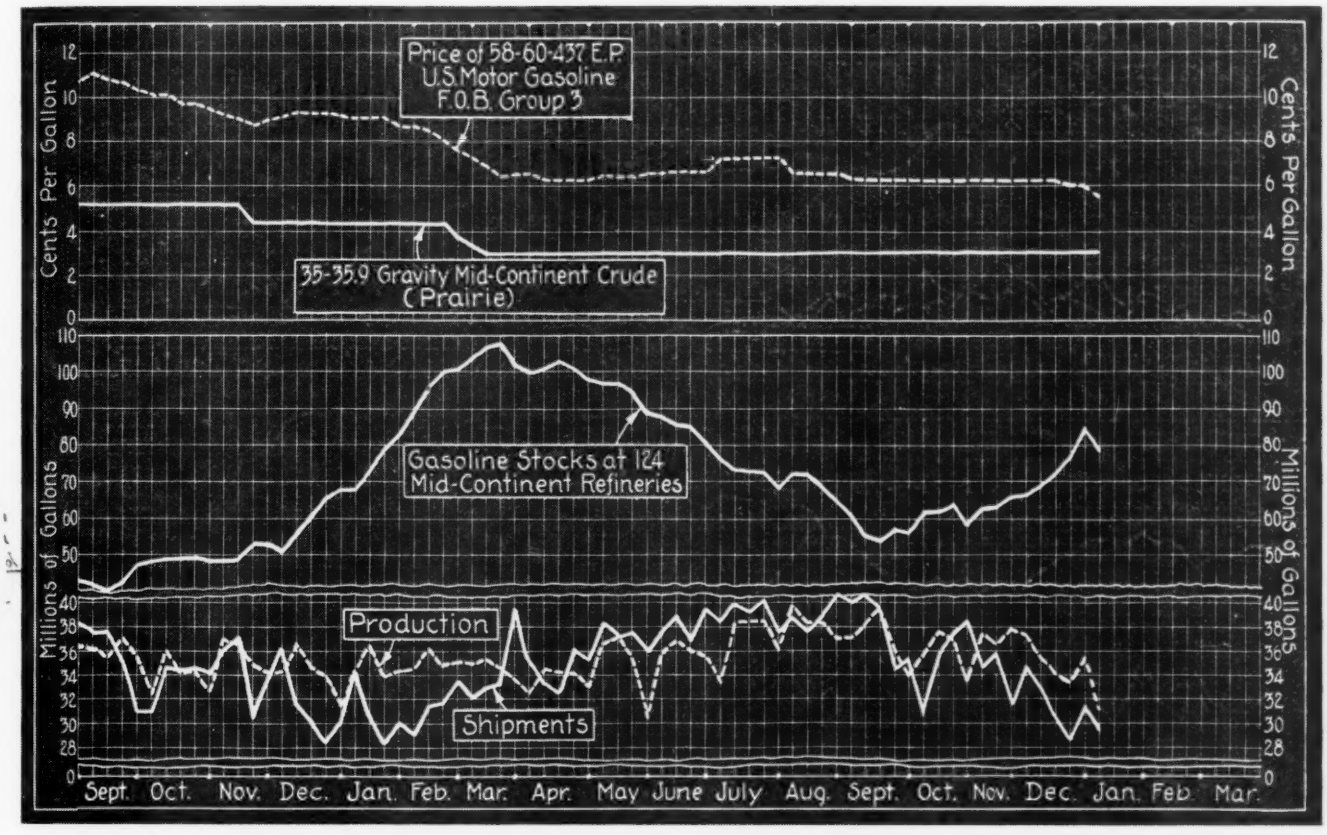
	Gallons
Production	107,878,000
Shipments	33,377,000
Net change in stocks	—8,336,000
Ratio sales to production	133.3%

FUEL OIL

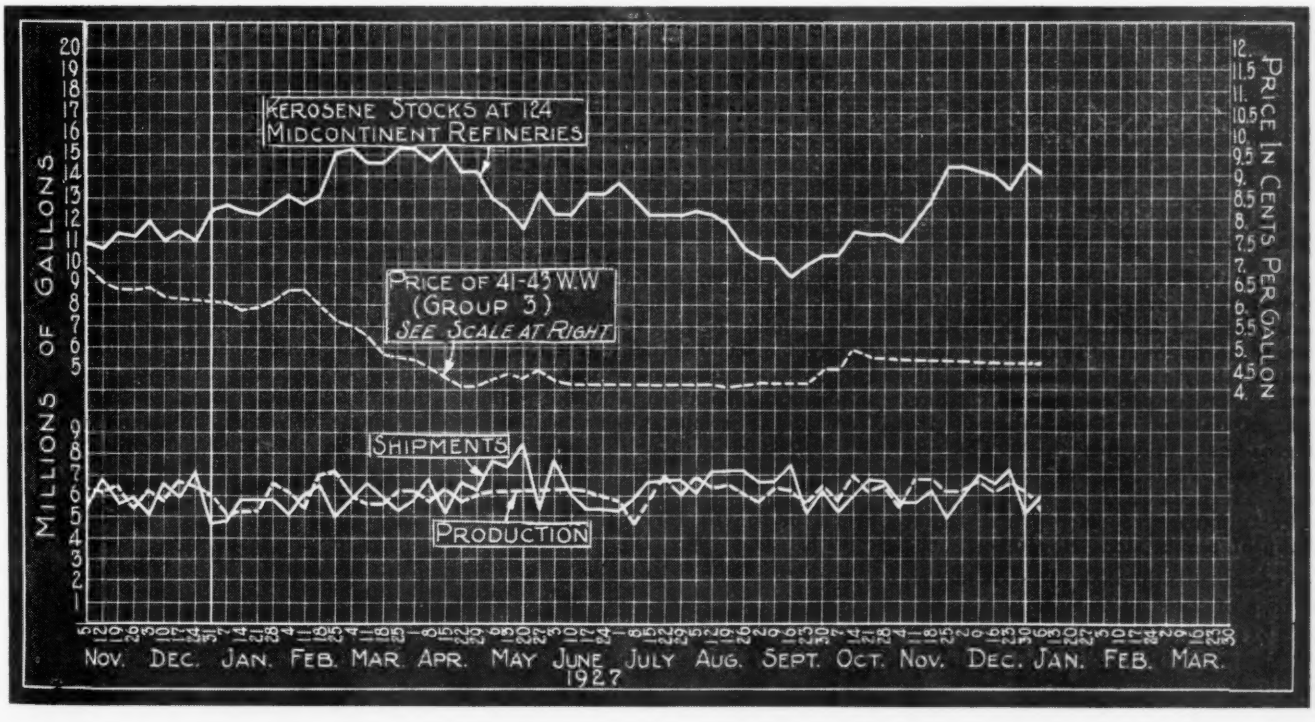
	Gallons
Production	107,873,000
Shipments	113,690,000
Net change in stocks	—5,812,000
Ratio sales to production	105.4%

Barometer of Mid-Continent Refinery Market—Week Ending January 6

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 124 Plants to National Petroleum News

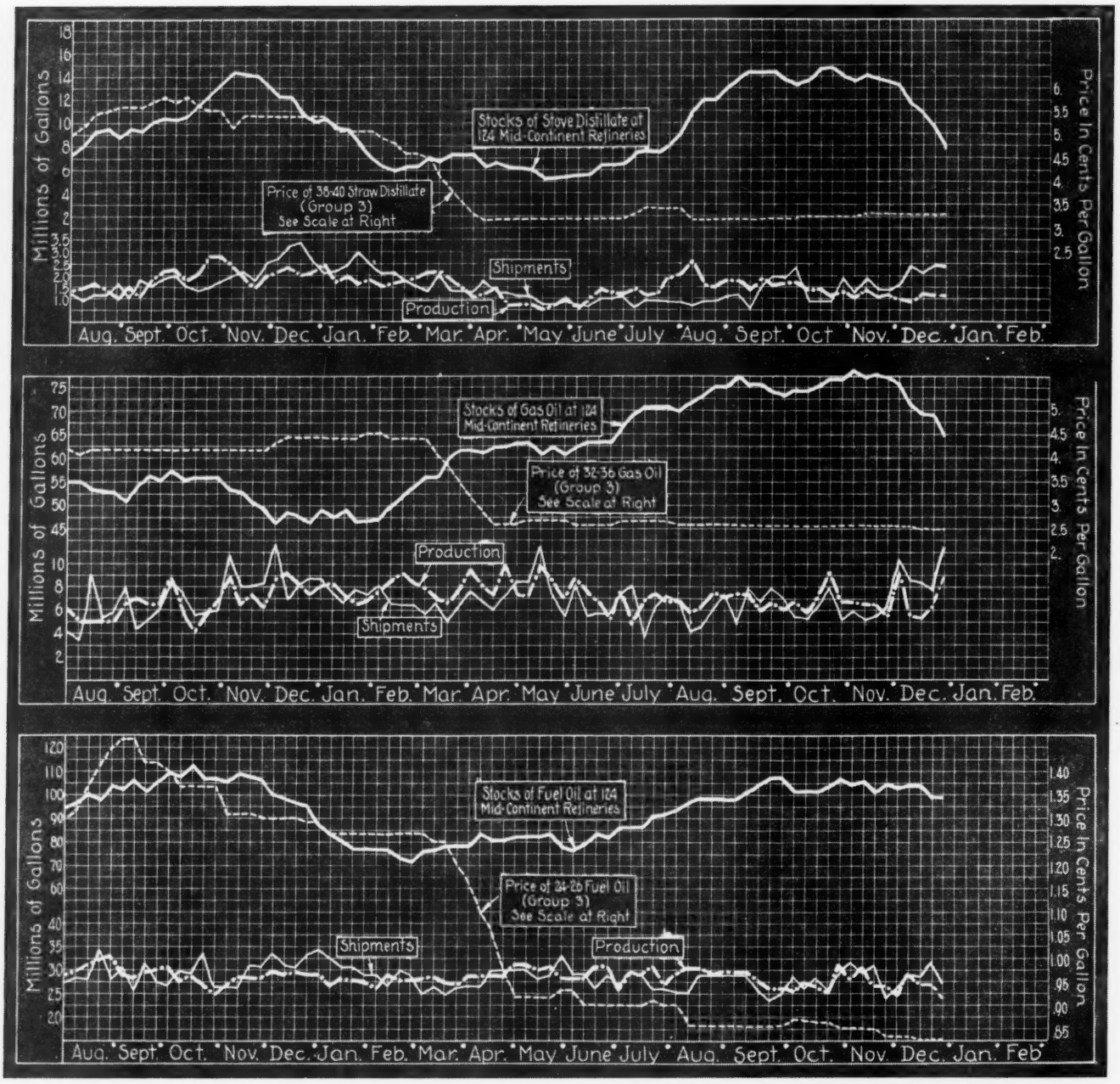

Price of 58-60-437 E.P. U.S. Motor Gasoline F.O.B. Group 3
35-35.9 Gravity Mid-Continent Crude (Prairie)
Cents Per Gallon
Gasoline Stocks at 124 Mid-Continent Refineries
Millions of Gallons
Production
Shipments
Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar.

Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and production are extended to date shown in table on opposite page


KEROSENE STOCKS AT 124 MIDCONTINENT REFINERIES
PRICE OF 41-43 W.W (GROUP 3) SEE SCALE AT RIGHT
SHIPMENTS
PRODUCTION
MILLIONS OF GALLONS
PRICE IN CENTS PER GALLON
Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar.
1927

Barometer of Mid-Continent Refinery Market—Week Ending January 6

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 124 Plants to National Petroleum News


Millions of Gallons
Price In Cents Per Gallon
Stocks of Stove Distillate at 124 Mid-Continent Refineries
Price of 38-40 Straw Distillate (Group 3) See Scale at Right
Shipments
Production
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct Nov. Dec. Jan. Feb.
Millions of Gallons
Price In Cents Per Gallon
Stocks of Gas Oil at 124 Mid-Continent Refineries
Price of 32-36 Gas Oil (Group 3) See Scale at Right
Production
Shipments
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb.
Millions of Gallons
Price In Cents Per Gallon
Stocks of Fuel Oil at 124 Mid-Continent Refineries
Price of 24-26 Fuel Oil (Group 3) See Scale at Right
Shipments
Production
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb.

With the exception of north and central Texas every group in the Mid-Continent participated in the reduction in throughput. Texas plants increased their runs 3,600 barrels daily average, or 5.9 per cent, to 64,372 barrels. Oklahoma refiners showed the largest cut in runs, 18,000 barrels daily average or 18 per cent. Texas runs averaged 82,507 barrels, the largest figure reported from that group of plants since November, 1925.

Kansas plants showed a reduction in runs of 2,400 barrels daily average, or 4.5 per cent. Daily average runs for the week were 50,219 barrels. In North Louisiana and Arkansas crude runs were reduced 5,486 barrels daily average to 36,327 barrels, the lowest figure in that area since March, 1926.

Production of gasoline at all reporting plants was reduced approximately 5,000,000 gallons to 29,823,000 gallons. At the same time gasoline shipments fell about 600,000 gallons from the previous week's shipments to 30,488,000 gallons. The smaller production enabled refiners to draw 665,000 gallons from stocks. Every group in the field reduced stocks except Kansas where there was an increase of nearly 1,000,000 gallons. Stocks Jan. 6 at all reporting plants were 79,966,000 gallons, compared with 68,117,000 gallons on Jan. 7, 1927.

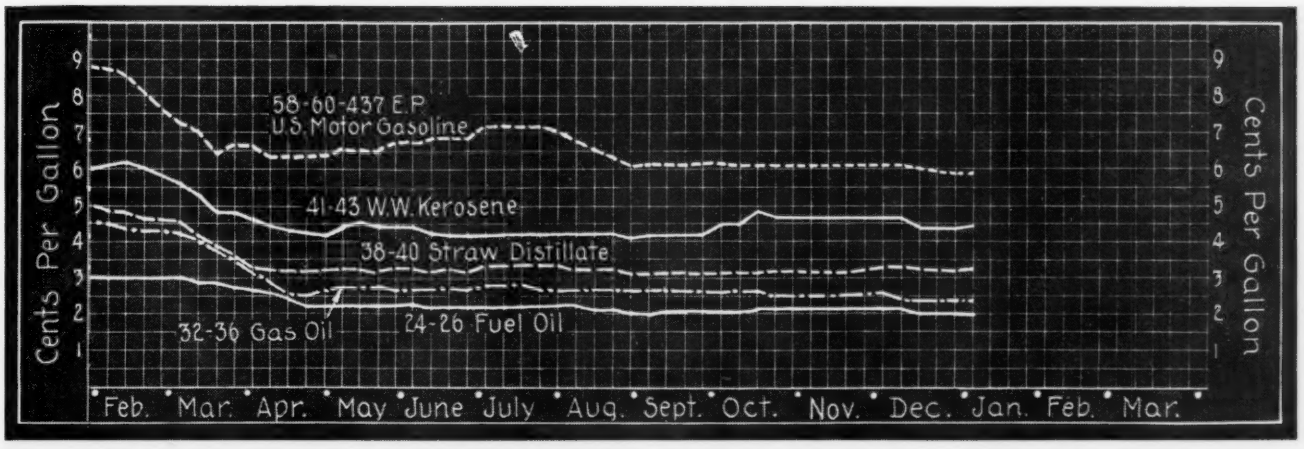
Production of kerosene was reduced 834,000 gallons to 5,279,000 gallons at all plants while shipments increased 665,000 gallons to 5,864,000 gallons.

Stove distillate stocks were reduced 1,347,000 gallons to 7,795,000 gallons when shipments increased 600,000 gallons. A year ago distillate stocks totaled 9,928,000 gallons.

Shipments of gas oil were doubled, increasing to 11,364,000 gallons compared with a production of 8,157,000 gallons. Total stocks were reduced 3,200,000 gallons to 64,569,000 gallons. In the last four weeks stocks of gas oil have been reduced 8,336,000 gallons in the Mid-Continent.

Fuel oil shipments were virtually unchanged at 26,501,000 gallons but production was down 2,630,000 gallons to 24,799,000 gallons. Stocks were lowered nearly 2,000,000 gallons to 98,627,000 gallons.

Current Prices of Principal Mid-Continent Refined Products


Cents Per Gallon
58-60-437 E.P. U.S. Motor Gasoline
41-43 W.W. Kerosene
38-40 Straw Distillate
32-36 Gas Oil
24-26 Fuel Oil
Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar.

Prices shown are on Group 3 basis and extended to date shown in Refinery Market Tables in Market Section of this Issue

A.P.I. Sends Applications For New Division

NEW YORK, Jan. 9.—Application blanks for membership in the division of development and production engineering of the American Petroleum Institute for 1928, are being distributed to institute members. The division was created at the institute's Chicago meeting in December.

Membership is open to all A. P. I. members engaged or interested in development and production, engineering or technical qualifications are not necessary. The institute is urging field superintendents, foremen and similar workers to join. Membership is $2.50 for this year.

The division was created to study, collect and disseminate practical and technical knowledge on production and development. The information is to be disseminated through regional meetings, and open sessions and official publications of the institute.

A circular describing the object of the division, qualificatons for memberships with application blanks have been sent to all A. P. I. members.

Gasoline Specification Law Held Invalid

OMAHA, Jan. 7.—A judge in county court here decided in a recent jobber's case that the section of the state inspection law governing gasoline specifications was unconstitutional. The decision is not final as any of the 93 county courts in Nebraska and any of the justices of the peace can give their opinions and final settlement would come only by a majority decision of the state supreme court.

The decision came in a case against H. M. Michel who was brought to court by the state inspection department for supplying the Farmer's Paint & Oil Co. with gasoline that did not meet U. S. Motor specifications. The case was not tried on its merit. Mr. Michel's attorney brought up the constitutionality of Sec. 7459 of the inspection law on specifications. County Judge Crawford, Dec. 20, ruled that the section delegated the making of new specification laws to the state department of agriculture which delegation of law making power was unconstitutional.

Mr. Michel is not paying any more inspection fees. C. M. Sutherland, secretary of the Nebraska Independent Oil Men's Association, writes in a recent bulletin that from April 1, 1925 to Nov. 1, 1927 inspection fees totaled $252,032.76 from gasoline, and kerosene each year provides about $20,000 from inspection fees. S. A. Wassum, president of the Nebraska Independent Oil Men's Assn., is studying the case and will have a meeting of the board of directors to determine the association's policy.

CLEVELAND, Jan. 7.—The Ohio Gas and Oil Men's Association is now affiliated with the American Gas Association. The Ohio association has a total membership of 1,700.

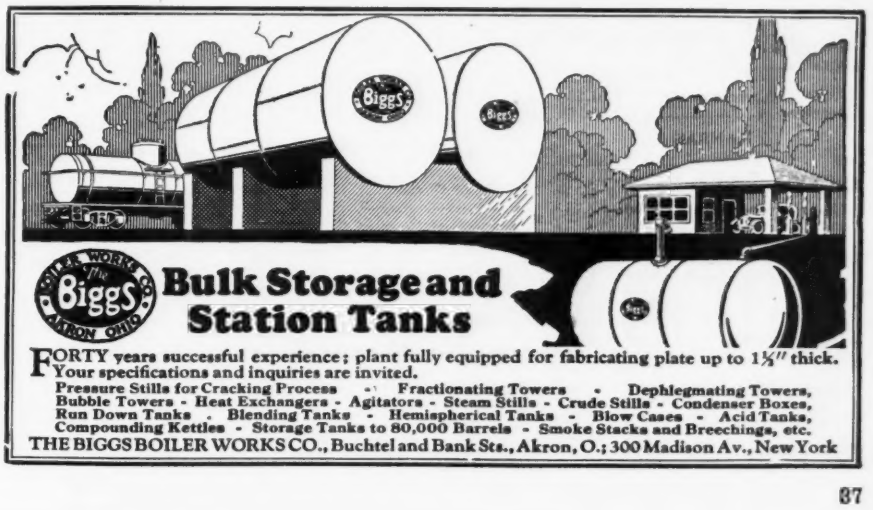
John J. McMahon, of the East Ohio Gas Co., Cleveland, is president of the Ohio association, and W. H. Thompson, Columbus, is secretary-treasurer.

Announce Committees for Geologists Meeting

TULSA, Jan. 7.—Personnel of the committee on arrangements for the March meeting of the American Association of Petroleum Geologists has been announced by President Clark H. Gester and notices sent to all members by J. P. D. Hull, business manager of the association, with headquarters in Tulsa. The committee is as follows:

Chairman, E. G. Gaylord; vice-chairmen, C. R. McCollom and H. J. Howley; program, W. S. W. Kew; publicity and exhibits; Joseph Jensen; hotel, J. T. Wood; registration, S. H. Gester; finance, J. E. Elliott; entertainment, Irving Augur; transportation, H. J. Hawley.

This will be the thirteenth annual meeting of the association. The business and technical sessions will be in San Francisco March 21, 22 and 23, with the Clift hotel as headquarters and the Native Sons auditorium as meeting place. On the night of March 23 the delegates will move to Los Angeles for entertainments and field trips. This phase of the convention will occupy March 24 and 25.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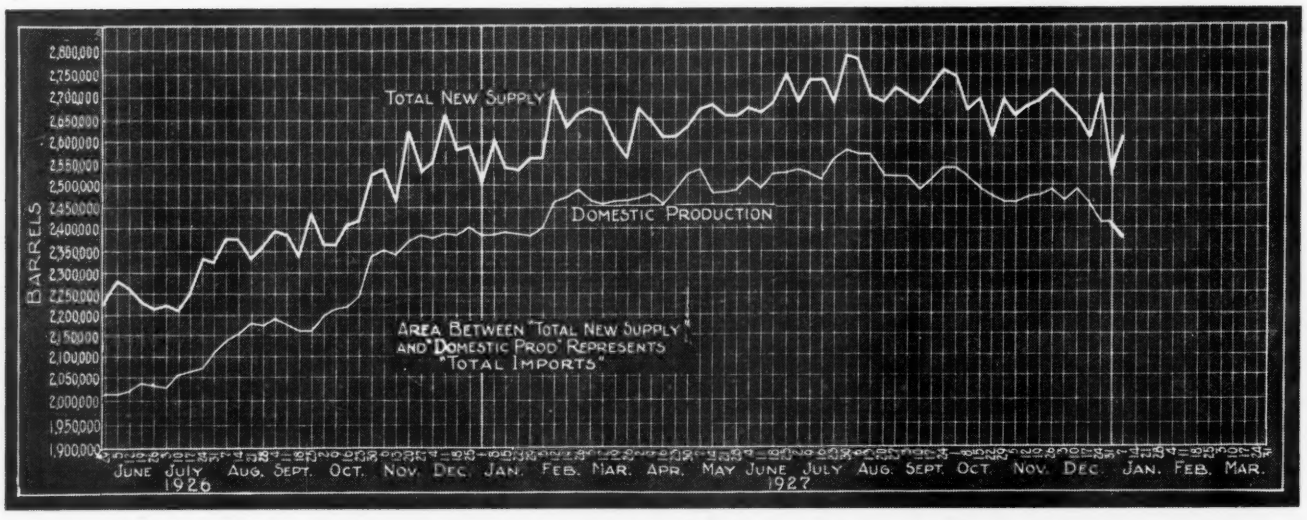
Daily Average Crude Oil Production and Imports



Daily average gross output of United States, by fields, for week ending with dates below as compiled by American Petroleum Institute

PRODUCTION SUMMARY

	Jan. 7	Dec. 31
Production east of Rockies	1,754,850	1,794,950
Decrease		40,100
Total production in U. S.	2,379,050	2,419,750
Decrease		40,700
Crude oil imports	226,143	102,143
Increase		124,000
Total crude supply	2,605,193	2,521,893
Decrease		105,578

OKLAHOMA

	Jan. 7	Dec. 31
North Braman	3,050	3,100
South Braman	1,850	1,850
Blackwell	3,850	3,850
Hubbard	2,800	2,800
Thomas	1,800	1,900
Tonkawa	15,000	15,150
Garber	10,150	10,450
Burbank	37,100	38,600
Osage, outside Burbank	29,800	29,700
Watchorn	1,250	1,300
Cushing	21,000	21,050
Yale Jennings	9,000	9,050
Davenport	2,200	2,350
Bristow-Slick	24,500	24,600
North Okmulgee	16,000	16,000
Lyons-Deaner	6,150	6,200
Stroud	1,200	1,250
Cromwell	10,600	10,650
Papoose	5,500	5,600
Wewoka	9,000	8,950
Seminole	53,700	56,650
Bowlegs	102,950	107,950
Searight	20,150	21,150
Little River	36,350	38,150
Earlsboro	124,700	137,450
Duncan district	6,750	6,800
Graham	6,250	6,250
Fox	1,850	1,850
Healdton	14,500	14,600
Hewitt	9,100	9,200
Scholem Alechem	12,750	12,800
Others	74,050	74,000
Total, Oklahoma	674,900	701,250
Decrease		26,350

KANSAS

	Jan. 7	Dec. 31
Greenwood County	30,800	31,000
Florence-Covert	1,400	1,450
Peabody-Elbing	3,750	3,750
Eldorado-Towanda	14,250	14,250
Augusta-Fox-Bush	4,100	4,100
Rainbow Bend	2,100	2,050
Russell	2,300	2,300
Churchill	12,300	12,150
Others	36,300	36,800
Total, Kansas	107,300	107,850
Decrease		550

NORTH LOUISIANA

	Jan. 7	Dec. 31
Homer	4,350	4,550
Haynesville	6,400	6,750
Caddo, Light	11,050	11,900
Caddo, heavy	3,900	4,050
De Soto, Red River	4,250	4,200
Elm Grove	550	600
Bellevue	1,050	1,050
Cotton Valley	4,600	4,800
Urania	7,600	7,850
Pleasant Hill	850	850
Total, North Louisiana	44,600	46,600
Decrease		2,000

ARKANSAS

	Jan. 7	Dec. 31
El Dorado	5,900	5,900
Smackover, light	8,500	9,200
Smackover, heavy	69,000	71,150
Stephens	1,150	1,150
Nevada	2,900	3,100
Lisbon	2,600	2,700
Others	100	150
Total, Arkansas	90,150	93,350
Decrease		3,200

TEXAS (OUTSIDE GULF COAST)

Panhandle District

	Jan. 7	Dec. 31
Hutchinson County	51,300	52,400
Carson County	7,450	7,700
Gray County	16,500	18,800
Wheeler County	1,200	1,300
Others	50	50
Total, Panhandle District	76,500	80,250
Decrease		3,750

North Texas

	Jan. 7	Dec. 31
Burkburnett	12,050	11,950
Electra	11,500	11,650
Iowa Park and K-M-A	1,850	1,900
Wilbarger	10,950	11,000
Archer County	22,600	22,750
Montague-Cooke	15,000	15,050
Others	700	700
Total, North Texas	74,650	75,000
Decrease		350

West Central Texas

	Jan. 7	Dec. 31
Stephens County	7,800	8,000
Eastland-Desdemona	9,000	9,300
Brown County	15,950	17,000
Coleman County	1,050	1,000
Callahan County	4,250	4,300
Shackleford County	5,200	4,950
Young County	9,950	10,150
Throckmorton County	1,200	1,000
Palo Pinto County	450	450
Others	2,100	1,450
Total, West Central Texas	56,950	57,600
Decrease		650

West Texas

	Jan. 7	Dec. 31
Jones County	1,300	1,350
Mitchell and Scurry Counties	3,400	3,400
Howard County	6,200	6,650
Reagan County	22,050	22,800
Crane and Upton Counties	107,100	11,400
Crockett County	2,200	4,250
Pecos County	53,200	48,350
Winkler	61,200	60,000
Others	2,250	2,400
Total, West Texas	258,900	260,600
Decrease		1,700

East Central Texas

	Jan. 7	Dec. 31
Mexia	8,300	8,350
Currie	600	600
Richland	700	700
Wortham	2,200	2,250
Corsicana-Powell	13,000	13,000
Nigger Creek	1,850	1,900
Total, East Central Texas	26,650	26,800
Decrease		150

Southwest Texas

	Jan. 7	Dec. 31
Luling	13,500	13,850
Lytton Springs	1,600	1,600
Somerset	800	800
Laredo District	7,100	7,350
Piedras Pintas		
Dale	400	400
Others	400	400
Total, Southwest Texas	23,800	24,400
Decrease		600
Total, Texas (Outside Gulf Coast)	517,450	524,650
Decrease		7,200

GULF COAST

Coastal Texas

	Jan. 7	Dec. 31
West Columbia	8,450	8,500
Damon Mound	900	800
Big Creek	2,050	2,150
Boling	2,100	2,100
Blue Ridge	3,950	3,900
Pierce Junction	11,850	11,800
Humble	1,850	1,900
Goose Creek	7,300	7,400
South Liberty	2,200	2,300
Hull	12,050	12,450
Saratoga	1,000	1,000
Batson	1,200	1,300
Sour Lake	3,650	3,900
Spindletop	52,050	53,400
Orange County	4,050	4,200
Others	3,250	3,350
Total, Coastal, Tex	117,900	120,450
Decrease		2,550

Coastal Louisiana

	Jan. 7	Dec. 31
Vinton	4,600	4,750
Lockport	5,000	4,800
Evangeline	1,150	1,150
Edgerly	2,350	2,850
Others	1,750	1,500
Tot., Coastal Louisiana	14,850	15,050
Decrease		200
Total Gulf Coast	132,750	135,500
Decrease		2,750

ROCKY MOUNTAIN

Wyoming

	Jan. 7	Dec. 31
Salt Creek	42,450	38,950
Grass Creek	2,300	2,500
Elk Basin	950	900
Big Muddy	2,700	2,700
Lost Soldier	2,550	2,700
Rock River	2,350	2,550
Lance Creek	650	600
Teapot Dome		
Others	3,500	3,550
Total, Wyoming	57,450	54,450
Increase		3,000

Montana

	Jan. 7	Dec. 31
Cat Creek	1,850	1,850
Sunburst	9,000	9,500
Others	150	150
Total, Montana	11,000	11,500
Decrease		500

Colorado

	Jan. 7	Dec. 31
Moffat (Craig)	1,200	1,150
Fort Collins	3,000	3,150
Florence	800	950
Others	1,550	550
Total, Colorado	6,550	5,800
Increase		750

New Mexico

	Jan. 7	Dec. 31
Table Mesa	450	400
Artesia	1,450	1,450
Hogback	650	650
Rattlesnake	50	900
Others	100	100
Total, N. Mexico	2,700	3,500
Decrease		800
Total, Rocky Mountain	77,700	75,250
Increase		2,450

California

	Jan. 7	Dec. 31
Santa Fe Springs	38,500	38,500
Long Beach	118,000	118,000
Huntington Beach	60,500	60,500
Torrance	20,000	20,000
Dominguez	13,500	13,500
Rosecrans	8,000	8,000
Inglewood	31,500	31,800
Midway-Sunset	81,000	81,000
Ventura Avenue	51,000	52,000
Seal Beach	41,500	42,500
Others	160,700	159,000
Total California	624,200	624,800
Decrease		600
Eastern (Including Ill., Ind., Ky., O., W. Va., Pa., and N. Y.)	110,000	110,500
Decrease		500

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EUM NEWS

Seminole Thaws Out and Climbs Again To Respectable Daily Figure

By Lawrence E. Smith
N. P. N. STAFF WRITER

TULSA, Jan. 7

THE Seminole district on Jan. 2 fell to 326,000 barrels and the viewers-with-alarm started again to wonder where the 1928 crop of light oil was to proceed from. Things are adjusted again, however, for with the end of the cold spell the district thawed out and is back to nearly 350,000. There is plenty of life in the old dog yet—enough to emphasize the necessity for continuing the restrictive agreements on the several new pools that have been opened.

The existence of an important pool off west of Bowlegs is pretty generally feared—or hoped for, according to whether you have any acreage or royalty out there. Beginning with the Gypsy's pinched-in Doser well in 7-8-6, which made big production before it came under the self-imposed ban on output, going on west to the Barnsdall Oil Co.'s No. 1 Fife, in 14-8-5 and thence to the Indian Territory Illuminating Oil Co.'s state land test in 16-8-5, there is a stretch of territory that appears promising. The Gypsy and Barnsdall wells have established production—the I.T.I.O. well had oil in the Hunton lime and is drilling to the Wilcox. It should very soon tell whether the Wilcox sand at that location is to be considered in the preliminary size-up of this new district.

The Gypsy's Doser well, reported last week as making a little water, is being handled satisfactorily and the amount of water that has come in is not alarming. Tubing was run to the bottom and the water pumped out.

The territory embraced by these three scattered operations may be one pool or a series of pools—nobody is very curious just now. Another major pool may be in the making there. The I.T.I.O. well is to be pinched in to 100 barrels if it is a Wilcox producer.

The district as a whole is getting to a low point in number of operations. A late count shows 176 in the entire territory. Of this number 64 are drilling below 4,000 feet and are, therefore, near-completions. Forty-one of them are drilling between 3500 and 4,000 feet. By late winter the heavy campaign will be about finished.

A SLIGHT extension to the south of the Little River pool was effected by the Carter Oil Co. whose test in the NE NW NE of 11-7-6 found top of the Wilcox at 4183 feet and at five feet in swabbed 690 barrels the first 22 hours. Its production increased until on Jan. 6 it swabbed 935 barrels. It is two locations south of a producing well belonging to the Independent Oil & Gas Co. and the White Eagle Oil & Refining Co., which is making around 1,000 barrels per day. The Carter well is higher structurally than the Independent-White Eagle well, but is lower than the Snowden & McSweeney well in the NW of 13-7-6, a quarter of a mile east and a mile south. The latter well is regarded as an extension to the Little River pool.

The deep development in central Oklahoma is getting a little more uncertain each day. In Logan county, where Roxana Petroleum Corp. last week completed a Wilcox failure a quarter mile southeast of its handsome discovery well, another failure appears to be in the making. This also is a Roxana well, in the NW NW of 32-19N-4W and is a south offset to the first failure. The Sec. 32 well is reported to be running more than 100 feet lower structurally than the offset failure.

South, in Oklahoma county, the

(*Continued on Page* 43)

Drilling Operations in Oklahoma, Kansas and Texas, Week Ended January 7, 1928

	January 7 — Week Ended —					Dec. 31, 1927				
	Loc.	Rigs	Drg.	S.D.	Total	Loc.	Rigs	Drg.	S.D.	Total
OKLAHOMA										
Burbank	3	29	20	2	54	4	25	16	2	47
Other Osage	1	5	18	5	29	3	4	22	3	32
Bristow-Cushing	7	6	35	7	55	7	9	34	7	57
North Oklahoma	13	9	69	45	136	14	10	76	40	140
South Oklahoma	8	13	128	32	181	7	14	127	32	180
Muskogee	..	4	48	23	75	..	4	45	25	74
Okmulgee-Bristow	8	31	56	24	119	7	33	53	27	120
Seminole Dist.	15	33	183	20	251	19	36	188	17	260
Total Oklahoma	55	130	557	158	900	61	135	561	153	910
KANSAS	25	53	118	67	263	26	52	107	69	254
TEXAS										
Central	..	132	212	125	469	..	129	204	135	468
Panhandle	..	105	77	90	272	..	103	83	82	268
N. Central	..	40	71	38	149	..	38	88	27	153
West	..	109	206	150	455	..	111	211	149	471
Laredo	..	1	25	19	45	..	1	25	19	45
Total Texas	..	387	591	422	1,400	..	382	611	412	1,405
NEW MEXICO	..	4	11	34	49	..	3	15	29	47
GRAND TOTAL	80	574	1,277	681	2,612	87	572	1,294	663	2,716

Completions in North Louisiana and Arkansas, Week Ended January 5, 1928

Company	Well	Location	Depth	Yield
Louisiana—Spring Hill—Webster Parish				
Northwest La. Gas Co.	J. L. Munn No. 1	36-23-10	2730	6 M gas
Caddo Parish—Pine Island				
Dixie Oil Co.	C. M. L. No. 9	23-21-15	3910	60 bbls.
Texas Oil Co.	C. M. L. No. 51	23-21-15	3942	50 bbls.
Texas Oil Co.	Mabry No. 10	15-21-15	3930	50 bbls.
Bossier Parish—Bellevue				
Autrey Oil Co.	Snyder No. 4	22-19-11	410	1M gas
Caddo Parish—Waskom				
Ferguson et al.	Z. Abney No. 2	7-17-16	1936	4M gas
Ouachita Parish				
West Virginia Oil & Gas Co.	Fee No. 5	5-18-4E	2173	5M gas
Waskom—Harrison Co., East Texas				
C. H. Lyons et al.	Furrh No. 1	J. Short HRS	1037	salt water aband.
Simms Oil Co.	Pollard No. 1	J. Short HRS	1029	5M gas
Thomason et al.	Timmons No. 2	Joel Lipscomb HRS	985	4M gas
Panola County				
Magnolia Pet. Co.	Sarah Davenport No. 2	Jesse Dunlop HRS	2398	15 bbls.
Magnolia Pet. Co.	Jernigan Estes No. 1	B. Lovell HRS	1075	3M gas
Magnolia Pet. Co.	C. Steele No. 13	B. C. Jordan HRS	996	1M gas
Arkansas—Smackover				
Brown et al.	Slaughter No. 1	2-17-16	2296	dry, aband.
Magnolia Pet. Co.	Ed Wilson No. 7	17-16-15	2485	40 bbls.
Calion—Union Co.				
Ohio Oil Co.	Crain No. 3	1-17-14	2296	30 bbls.
Union County				
Booth et al.	Rowland No. 1	8-17-11	3104	salt water, aband.
Grimes Brothers	Van Hook No. 9	7-18-14	2226	55 bbls.

Seminole District Production by Companies and Leases, Dec. 30th, 1927 and Jan. 6, 1928.

Company	Farm	S.T.R.	Dec. 30th Wells	Dec. 30th Prod.	Jan. 6th Wells	Jan. 6th Prod.
BOWLEGS						
Amerada	Rascoe	15– 8–6	8	3,340	8	3,115
Atlantic	Baker	1– 8–6	4	420	4	665
Atlantic	Fleet	23– 8–6	4	520	4	449
Atlantic	Grayson	12– 8–6	3	1,257	3	1,277
Atlantic	A. Jones	10– 8–6	3	120	3	112
Atlantic	C. Jones	9– 8–6	2	423	2	357
Total Atlantic			16	2,740	16	2,850
Barnsdall	McNac	28– 8–6	1	38	1	38
Barnsdall	Murrow	11– 8–6	4	967	4	482
Total Barnsdall			5	1,005	5	880
Carter	Bowlegs	15– 8–6	3	1,240	3	1,270
Carter	Burden	23– 8–6	3	430	3	460
Carter	Harcoche	15– 8–6	6	1,120	6	980
Carter	Hilly	23– 8–6	2	520	2	730
Carter	Jones	11– 8–6	3	2,445	3	2,650
Carter	Melisse	9– 8–6	1	910	1	1,070
Carter	Walker	15– 8–6	3	525	3	530
Carter	Wise	23– 8–6	12	6,290	12	6,390
Total Carter			34	13,580	34	14,105
Empire	Lacey	15– 8–6	6	860	6	74
Empire	Wise	23– 8–6	2	840	2	1,008
Total Empire			8	1,700	8	1,748
Gypsy	Bowlegs	22– 8–6	1	267	1	335
Gypsy	Bradley	8– 8–6	1	35	1	45
Gypsy	Brown	33– 8–6	1	0	1	50
Gypsy	Cumsey	8– 8–6	4	1,882	4	1,795
Gypsy	Dosar	7– 8–6	1	102	1	680
Gypsy	Grayson	13– 8–6	4	1,675	4	1,365
Gypsy	Harjoche	10– 8–6	1	1,307	1	1,287
Gypsy	Jones	11– 8–6	1	577	1	545
Gypsy	Walker	15– 8–6	8	2,038	8	2,575
Gypsy	Wise	23– 8–6	3	255	3	67
Total Gypsy			25	8,138	26	8,744
Indep-Marland	Coker	21– 8–6	1	28	0	0
I. T. I. O.	Barnett	24– 8–6	2	465	2	484
I. T. I. O.	Billington	22– 8–6	5	375	5	570
I. T. I. O.	Bowlegs	22– 8–6	11	1,260	11	1,238
I. T. I. O.	Burden	26– 8–6	1	11	1	2
I. T. I. O.	Davis	13– 8–6	4	1,945	4	2,217
I. T. I. O.	Fay	18– 8–6	8	4,412	8	4,820
I. T. I. O.	Goforth	15– 8–6	11	1,862	11	1,835
I. T. I. O.	Hull	26– 8–6	1	0	1	38
I. T. I. O.	Livingston	15– 8–6	11	4,782	11	4,798
I. T. I. O.	Lizzie	11– 8–6	2	651	2	716
I. T. I. O.	Walker	15– 8–6	8	1,230	8	1,345
I. T. I. O.	Wilmont	15– 8–6	4	1,260	4	1,258
I. T. I. O.	Youngblood	22– 8–6	2	58	2	301
Total I. T. I. O.			70	18,311	70	19,138
McCulloch	Bowlegs	22– 8–6	3	350	3	352
Magnolia	Davis-BF	13– 8–6	1	708	1	736
Magnolia	Davis-M	13– 8–6	1	496	1	521
Magnolia	Hammond	10– 8–6	2	180	2	150
Magnolia	Rhodes	10– 8–6	2	4,397	2	3,882
Magnolia	Van Buskirk	9– 8–6	1	194	1	64
Total Magnolia			7	5,975	7	5,353
Mid-Continent	Baker	10- 8-6	4	2,304	4	2,120
Mid-Continent	Bowlegs	22– 8–6	1	105	1	0
Mid-Continent	Smith	12– 8–6	5	875	5	930
Total Mid-Continent			11	3,285	11	3,051
Minnehoma	Bowlegs	15– 8–6	3	112	3	70
Prairie	Gahagan	23– 8–6	4	875	4	920
Prairie	Harber	10– 8–6	8	4,665	8	4,190
Prairie	Jones	11– 8–6	4	1,065	4	1,110
Prairie	Templeton	12– 8–6	4	3,760	4	3,865
Prairie	Whitney	23– 8–6	4	570	4	555
Total Prairie			24	10,815	24	10,640
Pure	Reed	14– 8–6	15	4,370	15	4,734
Pure	D-Strother	14– 8–6	4	895	4	868
Pure	F-Strother	14– 8–6	1	5	1	5
Pure	F-Strother	10– 8–6	2	586	2	952
Total Pure			22	5,856	22	6,559
Roxana	Taylor	16– 8–6	6	1,439	6	1,584
Shaffer	Lacey	14– 8–6	3	747	3	770
Sinclair	Bowlegs	22– 8–6	1	0	1	30
Sinclair	Cumsey	10– 8–6	3	3,936	2	4,389
Sinclair	Ellen	11– 8–6	6	2,268	6	2,668
Sinclair	Harjo	14– 8–6	3	1,035	3	1,120
Sinclair	Jones	8– 8–6	6	5,841	6	5,910
Sinclair	Taylor	10– 8–6	4	3,622	4	4,006
Sinclair	Walker	22– 8–6	4	1,000	4	1,015
Total Sinclair			27	17,702	26	19,138
Texas	Reed	14– 8–6	10	3,895	9	4,550
Tidal	Grayson	13– 8–6	4	1,475	3	770
Tidal	Narjoche	10– 8–6	6	1,810	6	2,250
Total Tidal			10	32,85	9	3,020
Twin State	Jones	10– 8–6	2	0	2	15
Total Bowlegs			295	102,403	295	106,166
LITTLE RIVER						
Amerada	Fore	35– 8–6	2	1,275	2	1,275
Amerada	Nitey	35– 8–6	4	2,720	4	2,735
Total Amerada			6	3,995	6	4,010
Banrsdall	Hotulke	22– 7–6	1	0	1	0
Blackwell	Nitey	35– 8–6	8	4,366	8	4,603
Carter	Fish	1– 7–6	4	1,515	4	1,715
Carter	Jackson	11– 7–6	1	935	2	0
Continental	Cosar	2– 7–6	2	550	2	610
Gypsy	Brown		1	50	1	0
Gypsy	Campbell	36– 8–6	2	285	2	37
Gypsy	Nungee	1– 8–6	1	60	1	75
Gypsy	Pottey	35– 8–6	3	470	2	595
Gypsy	Wadsworth	1– 7–6	1	0	1	22
Total Gypsy			8	530	6	729
Independent	Harris	23– 7–6	1	104	1	104
Indep. et al.	Davis	1– 7–6	11	1,020	1	1,580
I. T. I. O.	Campbell	1– 7–6	1	180	1	190
I. T. I. O.	Dungan	35– 8–6	3	3,240	3	3 191
I. T. I. O.	House-MA	1– 7–6	1	418	1	468
I. T. I. O.	House-WE	1– 7–6	1	72	1	59
I. T. I. O.	House-WE	2– 7–6	3	1,720	3	2,016
I. T. I. O.	Jackson	1– 7–6	3	2,012	3	2,643
I. T. I. O.	McCulla	1– 7–6	3	1,240	3	1,157
I. T. I. O.	Nitey	2– 7–6	6	1,380	6	1,692
I. T. I. O.	Phoebe-A	36– 8–6	3	845	3	775
I. T. I. O.	Phoebe-B	36– 8–6	3	740	3	865
I. T. I. O.	Reed	1– 7–6	1	106	1	181
I. T. I. O.	Sotkneche	1– 7–6	4	940	4	1,172
Total I. T. I. O.			32	13,001	32	11,707
Magnolia	Cruse	2– 7–6	1	800	1	812
Mid-Continent	Wadsworth	27– 8–6	7	1,300	7	1,395
Mid-Continent	Smith	12– 8–6	1	45	1	40
Total Mid-Continent			8	1,345	8	1,435
Pine et al.	Pottey	35– 8–6	1	1,000	1	875
P & R.	Dungan	35– 8–6	2	195	2	180
P & R.	House	2– 7–6	4	1,930	4	2,310
Total P & R.			6	3,125	6	2,490
Roxana	Smith	1– 7–6	1	10	1	20
Sinclair	Cosar	36– 8–6	1	940	1	1,475
Snowden-McSweeney	Tiger	13– 7–6	1	277	1	000
Superior	Wadsworth	1– 7–6	1	21	1	21
Texas	Coker	1– 7–6	3	625	3	725
Tidal	House	1– 7–6	3	1,902	3	1,707
Tidal	Johnson	1– 7–6	1	70	1	72
Total Tidal			4	1,972	4	1,779
Total Little River			93	36,566	89	37,610
EARLSBORO						
Amerada	Anderson	15– 8–6	3	2,065	3	2,135
Amerada	Cowden	4– 9–5	8	2,315	8	2,260
Amerada	Rodgers	3– 8–5	3	2,310	3	2,725
Total Amerada			14	6,690	14	7,120
Barnsdall	Brown	10– 9–5	4	2,165	4	2,885
Barnsdall	Bruner-F	2– 9–5	2	250	2	734
Barnsdall	Bruner-N	11– 9–5	4	1,645	4	2,230
Barnsdall	Cudjo	11– 9–5	1	28	1	27
Barnsdall	Davis-D	11– 9–5	3	1,197	3	2,021
Barnsdall	Davis-J	11– 9–5	4	558	4	576
Barnsdall	Davis-M	11– 9–5	3	1,572	3	2,525
Barnsdall	Gibson	9– 9–5	7	2,526	7	3,254
Barnsdall	Hearn	15– 9–5	1	18	1	9
Barnsdall	Ingram	4– 9–5	7	7,356	7	4,656
Barnsdall	Pack	10 –9–5	4	184	4	186
Barnsdall	Peter	10 –9–5	4	261	4	355
Barnsdall	Sango	2– 9–5	3	2,570	3	3,062
Barnsdall	Sebolka	15– 9–6	1	1,036	1	958
Barnsdall	Sullivan-H	11– 9–5	2	26	2	178
Barnsdall	Sullivan	10 –9–5	3	69	3	72
Barnsdall	Watsutke	12– 9–5	4	1,498	4	1,167
TotalBarnsdall			57	22,959	57	24,895
Carter	Davis	13– 9–5	1	820	1	940
Carter	Payne	12– 9–5	3	955	3	855
Carter	Sango	2– 9–5	4	5,555	3	6,270
Total Carter			8	7,430	7	8,065
Continental	Kays	2– 9–5	2	425	2	290
Continental	Spencer	12– 9–5	4	2,320	4	2,460
Total Continental			6	2,745	6	2,850
Crosbie	Bryant	9– 9–5	2	325	2	345
Empire	Barker	12– 9–5	1	3,112	1	2,940
Empire	Edmundson	3– 9–5	3	1,360	3	1,487
Total Empire			4	4,472	4	4,427
Gypsy	Bruner	10– 8–6	4	2,040	4	3,285
Gypsy	Carter	11– 8–6	11	4,962	11	5,110
Gypsy	Earl	16– 9–5	1	27	0	0
Gypsy	Hunick	5– 9–5	1	2,415	1	2,385
Gypsy	Noble	12– 9–5	4	5,182	4	4,932
Gypsy	Peter	10– 9–5	6	152	6	90
Gypsy	State	16– 9–6	4	1,117	4	1,557
Gypsy	Sango	1– 9–5	4	7,042	4	7,330
TotalGypsy			35	22,967	36	24,706
Independent	Bruner	10– 9–5	4	170	4	240
Independent	Gaines	11– 9–5	2	1,265	2	1,730
Independent	Knapp	8– 9–5	5	3,275	5	3,736
Independent	O'Dell	4– 9–5	4	85	4	25
Independent	Sullivan	10– 9–5	4	25	4	73
Total Independent			19	4,820	19	5,804

(*Continued on Page 43*)

Seminole District Production by Companies and Leases, Dec. 30th, 1927 and Jan. 6, 1928.

(*Continued from Page 42*)

Company	Farm	S.T.R.	Dec. 30th Wells	Dec. 30th Prod.	Jan. 6th Wells	Jan. 6th Prod.
Magnolia	Bryant	9- 9-5	6	2,586	6	2,149
Magnolia	Cowden	4- 9-5	4	94	4	31
Magnolia	Edmundson	3- 9-5	3	64	3	64
Magnolia	Holmsley	11- 9-5	8	2,093	8	2,201
Magnolia	Ingram	10- 9-5	1	30	1	35
Magnolia	Lena	10- 9-5	3	98	3	91
Magnolia	Seay	12- 9-5	8	4,533	8	4,515
Magnolia	Simpson	10- 9-5	3	360	4	344
Magnolia	Sparks	11- 9-5	7	3,001	7	3,053
Mangolia	Sullivan	12- 9-5	3	873	3	679
Total Magnolia			48	13,732	48	13,162
Mid-Continent	McCumber	9- 9-5	7	1,245	7	1,470
Mid-Kansas	Anderson	14- 9-5	4	529	4	410
Phillips	Dunnaway	15- 9-5	1	30	1	30
Phillips	Graham	9- 9-5	7	207	7	181
Total Phillips			8	237	8	211
Prairie	Baker	23- 9-5	1	50	1	50
Prairie	Davis	13- 9-5	4	1,125	4	1,285
Prairie	Graham-C	3- 9-5	2	72	2	10
Prairie	Graham-O	10- 9-5	4	2,380	4	2,480
Prairie	Stidham	11- 9-5	13	529	13	6,135
Total Prairie			23	8,917	24	9,960
Roxana	Bayliss	17- 9-5	1	19	1	19
Roxana	Spencer	12- 9-5	2	2,665	2	1,264
Total Roxana			3	2,684	3	1,283
Shaffer	Clark	1- 9-5	5	1,599	5	1,848
Sinclair	Foreman	18- 9-5	1	15	1	15
Sinclair	Hollins	12- 9-5	3	705	3	640
Sinclair	Sango	2- 9-5	1	5,510	1	5,965
Total Sinclair			5	6,230	5	6,620
Skelly	Spencer	12- 9-5	2	1,001	2	1,755
Texas	Anderson	2- 9-5	6	1,277	6	1,252
Texas	Brown	10- 9-5	8	2,800	8	2,650
Texas	Rodgers	5- 9-5	3	5,285	3	6,055
Texas	Wilmont	10- 9-5	6	3,424	6	3,450
Total Texas			23	12,786	23	13,407
Tidal	Watkins	9- 9-5	6	2,820	6	2,690
Twin State	Barker	12- 9-5	4	150	4	255
Twin State	Hearn	2- 9-5	3	5,180	3	4,955
Total Twin State			7	5,330	7	5,210
TOTAL EARLSBORO			288	129,418	288	136,238
TOTAL LITTLE RIVER			94	36,566	89	37,610
TOTAL SEARIGHT			69	20,626	68	20,922
TOTAL BOWLEGS			295	102,403	295	106,166
TOTAL SEMINOLE			319	54,295	319	56,955
GRAND TOTAL SEMINOLE AREA			1,066	343,308	1,060	357,891
Average Per Well						

Completions in Oklahoma and Kansas, Week Ended January 7, 1928

OKLAHOMA

Carter County

Company	Well No.	Location	Depth	Init. Prod.
Magnolia	1	NWc 20-1-3 W	T.D. 4100	Dry

Cherokee County

Company	Well No.	Location	Depth	Init. Prod.
Atkinson	1	NWc 36-19-21 E	T.D. 2400	Dry

Cotton County

Company	Well No.	Location	Depth	Init. Prod.
Ray	1	NWc SE 22-2-11 W	T.D. 2212	Dry

Creek County

Company	Well No.	Location	Depth	Init. Prod.
Kennedy et al	4	CWL NW NW 25-18-11 E	T.D. 2311	Dry
Gled	3	NWc NE NE NW 24-19-8 E	2257-2290	50
Silurian	26	NEc SE SW 8-18-7 E	2495-2543 OWD	4
Devonian	5	SEc NW NE 36-15-7 E	2447-2471	40
Dixie	1	SEc SW SE 7-19-9 E	2757-2767	428
Prod. & Ref.	2	SWc NE SE 18-14-10 E	3432-3438 OWD	10
Prod. & Ref.	5	NWc SE NE 18-14-10 E	3414-3434	320

Garfield County

Company	Well No.	Location	Depth	Init. Prod.
Sinclair	23	C SW NE 25-22-4 W	2111-2121	65
Champlin	1	NWc SE 24-22-3 W	T.D. 2745	Dry
Sinclair	1	SWc NE 2-20-5 W	T.D. 6254	Dry

Hughes County

Company	Well No.	Location	Depth	Init. Prod.
Dixie	3	SEc SW SW 17-8-10 E	3728-3739	26M
Prairie	4	NEc NW NW 20-8-10 E	3698-3706	16½M

Kay County

Company	Well No.	Location	Depth	Init. Prod.
Harris et al	1	SEc 25-29-1 W	955-970	.85M
Wentz	2	SEc SW SW 20-27-1 W	699-702	¾M
Larutan	2	NEc NW NW 29-27-1 W	706-714	½M
Greer et al	1	C SE SW 19-29-1 E	T.D. 1535	Dry

Muskogee County

Company	Well No.	Location	Depth	Init. Prod.
Summers	2	SWc NE NW 28-15-16 E	T.D. 1804	Dry
Bradley	1	CSL NE NE 34-15-18 E	T.D. 1980	Dry
Lambert	2	NEc SE 22-13-15 E	T.D. 1700	Dry
Hillside	10	C SW SW 28-15-15 E	1247-1273	15

Okfuskee County

Company	Well No.	Location	Depth	Init. Prod.
Greis	3	C NE SW 36-11-9 E	2850-2925	14M

Okmulgee County

Company	Well No.	Location	Depth	Init. Prod.
Wallace	5	C NW SE 14-14-14 E	986-1008	50
Prairie	1	NEc NW NW 26-13-12 E	2947-3052	20

Osage County

Company	Well No.	Location	Depth	Init. Prod.
Prairie	4	NWc NE NE 20-27-6 E	2894-2955	325
Prairie	5	SEc NE NE 20-27-6 E	2886-2955	1300
City of Pawhuska	21	NWc SW 25-26-8 E	1118-1134	¾M
Peters	2	SEc SW NW 25-25-9 E	2107-2170	765
Devonian	3	SEc NE NE 33-21-10 E	1510-1534	30
Sand Springs Home	109	C NE 28-20-10 E	2380-2381	1M
Phillips	4	NWc SE SE 17-27-6 E	T.D. 3010	Dry

Pawnee County

Company	Well No.	Location	Depth	Init. Prod.
Mann et al	1	NEc NW SE 22-20-9 E	2112-2132	3M

Pontotoc County

Company	Well No.	Location	Depth	Init. Prod.
Homa Okla	4	SEc SW NW 17-5-8 E	2348-2359	257
Louisiana	4	NEc SW SE 17-5-8 E	2532-2565	250
Louisiana	1	NEc NW 20-5-8 E	2448-2480	400

Pottawatomie County

Company	Well No.	Location	Depth	Init. Prod.
Magnolia	2	SEc NE 11-7-4 E	3915-3954	64
Atlantic et al	1	NEc NW NW 15-7-4 E	3640-3659	46M
Wilcox	1	SWc 22-11-2 E	T.D. 5253	Dry

Seminole County

Company	Well No.	Location	Depth	Init. Prod.
Prod. & Ref.	2	SWc NW SE 35-8-6 E	T.D. 4514	Dry
Shaffer	2	NWc SE SW 1-9-5 E	4419-4426	477
Gypsy	12	SEc NW NW 11-9-5 E	4448-4473	992
Barnsdall	4	SWc NE SW 12-9-5 E	4396-4408	313
Roxana	4	NWc SE 3-9-6 E	4275-4287	1421
Magnolia	1	SEc NW SE 9-8-6 E	4225-4228	575
I. T. I. O.	7	NEc SE NW 13-8-6 E	4261-4275	151
Carter	3	NEc NW SW 36-8-6 E	4400-4401	65
Snowden-McSweeney	1	NWc 13-7-6 E	T.D. 4315	100
Louisiana	1	NEc 18-5-8 E	2677-2696	604
Prairie	7	NEc NW SE 11-8-6 E	4190-4206	285

Stephens County

Company	Well No.	Location	Depth	Init. Prod.
Magnolia	1	NEc SE 30-1-9 W	2167-2181	7M
Medlin	7	SEc SW 27-1-8 W	1685-1686	135
Owen-Wood	7	CNL S½ SE NW 17-2-8 W	2084-2100	50
Carter	4	SWc SE SE 11-2-5 W	T.D. 2515	Dry
Magnolia	1	NWc NE SW 8-1-5 W	T.D. 3730	Dry

Tulsa County

Company	Well No.	Location	Depth	Init. Prod.
Transcontinental	2	CNL NW SE 8-16-14 E	1972-1976	15

Wagoner County

Company	Well No.	Location	Depth	Init. Prod.
Boyd-Hanks	1	NEc SW NW 7-18-15 E	T.D. 1320	Dry
Elk	3	NWc NE 31-19-15 E	T.D. 1162	Dry

KANSAS

Butler County

Company	Well No.	Location	Depth	Init. Prod.
White Eagle	1	NEc NW 13-27-6 E	T.D. 3149	Dry

Chase County

Company	Well No.	Location	Depth	Init. Prod.
Westfield	4	C SW NE 25-18-6 E	T.D. 1276	Dry

Cowley County

Company	Well No.	Location	Depth	Init. Prod.
Roth-Faurot	1	SEc 32-33-4 E	1900-1909	.46M

Dickinson County

Company	Well No.	Location	Depth	Init. Prod.
Loy et al	1	NWc SE 24-16-4 E	T.D. 2551	Dry

Greenwood County

Company	Well No.	Location	Depth	Init. Prod.
Prairie	1	NWc SW NW 11-22-10 E	T.D. 2290	Dry
Paul et al	1	SEc SW NW 3-26-10 E	T.D. 2100	Dry
Empire	18	NWc SE SW 14-22-11 E	1864-1910	10
Empire	5	NEc 25-22-12 E	1685-1722	100
Empire	6	NWc NE NE 25-22-12 E	1688-1743	300
Blankinship	1	NWc 30-22-13 E	1700-1725	35

McPherson County

Company	Well No.	Location	Depth	Init. Prod.
Merriman et al	1	C NE NW 8-19-2 W	T.D. 3560	Dry

Sumner County

Company	Well No.	Location	Depth	Init. Prod.
Roxana	9	Lot-7, Blk-36, 11-32-2 E	2048-2117	75
Derby	2	Tract-3, 14-32-2 E	1990-2094	192
Roxana	7	NW 14-32-2 E	1991-2096	1809
Roxana	8	Lot-9, Blk-54 14-32-2 E	2014-2106	200
Wasson et al	1	NEc SE SW 14-32-2 E	1950-2076	2245

Mid-Continent territory's deepest test is showing a little oil in what is regarded as the Simpson horizon, immediately overlying the Wilcox. This test, drilled by the Cromwell Oil & Gas Co. and Wirt Franklin, is in the SW NE NE of 15-12N-3W and the latest reported depth was 6821 feet. Pipe was being run at 6646 feet. The bottom hole formation is softer than the lime in which the well has been drilling for some time and is showing more sand.

IN THE Texas Panhandle the appearance of water in greater quantity in the No. 1 Jackson well of Delaney et al, in the new Bowers pool of Gray county, has given a different turn to events in this pool, which was expected finally to get into the 50,000 barrel or better class. Delaney's well, in the NW NE SW of Sec. 88, Block B-2, H. & G. N. survey, came in last October for initial of about 7,000 barrels, water content 1 to 5 per cent. Production held to a splendid average, making 4,700 barrels daily for the week ended Dec. 24.

New Field Operations in Oklahoma, Kansas, North Central, Panhandle and West Texas, Week Ended January 7, 1928

OKLAHOMA

Caddo County

Company	Well-Farm	Location
English Drlg.	3-Cutshall	NWc SE 5-5-9 W
Moran et al.	2-Cutshall	SEc NW 5-5-9 W

Carter County

Roxana	1-Carter	SEc SW SW 14-1-3 W

Cherokee County

Atkinson	1-Fee	NWc NW 36-19-21 E

Comanche County

Jolly-Ogg	1-Sparlin	SEc NE 24-3-10 W

Creek County

Independent	9-Wolfe	SWc NW NE 18-14-10
Independent	8-Wolfe	NWc SW NE 18-14-10
Irelan et al.	3-Inman	SWc 9-17-11 E
Devonian	2-Hawkins	SWc NE 4-18-12
Markham Jr.	1-Beesley	NEc 19-17-7 E

Garfield County

Sinclair	18-Metcher	NE NW SE 36-22-4 W

Grady County

Little Nick	3-McCaughtry	SEc NW NW 35-5-8 W
Noble et al.	5-McCaughtry	SEc NE NW 35-5-8 W

Hughes County

Whitney et al.	1-Moore	SEc SW 17-5-9 E

Kay County

Harris et al.	1-Austin	C SE NE 17-29-1 W

Muskogee County

Lambert	1-Hutton	NEcSW 22-13-15 E
Peterson	7-James	CSL SW SE SE 18-14-17 E
Decins et al.	1-Marshall	NWc SE 27-14-16 E

Okmulgee County

Smith	10-Rentie	NEc SE SW 18-14-15 E
Sharp et al.	5-Colbert	SEc NW SE 16-14-14 E

Osage County

Delmar	1	C NW 22-24-8
Lewis Gas Prod.	4-Parker	SWc 2-26-6
Lewis Gas Prod.	1-Parker	NWc SW 2-26-6
Lewis Gas Prod.	2	SWc NW SW 2-26-2
Lewis Gas Prod.	3	NWc SW SW 2-26-2
Gypsy	9	SWc NE SE 28-27-6
Gypsy	10	SEc NW SE 28-27-6
Kewanee	7	NEc NW NE 28-27-6
Kewanee	8	SWc NW NE 28-27-6
Kewanee	9	SEc NW NE 28-27-6
Kewanee	10	NWc SW NE 28-27-6
Phillips	6	SEc SW SE 17-27-6
Phillips	7	NWc SE 17-27-6

Pawnee County

Swift	1-Pounder	NWc SW NW 33-20-9

Pontotoc County

T. P. C. & Oil	2-Hutcheon	SEc 19-5-8 E

Seminole County

Barnsdall	6-Sango	NWc SW NW 1-9-5 E
Twin State	1-Swartz	SEc 10-9-7 E
Magnolia	2-Cruse	SW SE SE 2-7-6 E
Gypsy	1-Renton	NWc NE NE 11-7-6 E
Shaffer	1-Isaacs	NEc SW 13-5-5 E
Louisiana O & R.	3-Reed	SEc NE NE 18-5-8 E

Sequoyah County

Citizens Gas	1-Packard	SEc NE 7-11-27 E

Stephens County

Beard et al.	2-Wade	SW NW NE 11-2-8 W

Tulsa County

Enfisco	1-Bruner	C E½ NE 14-17-13

KANSAS

Butler County

Empire	1-Sterling	SEc NW SE 22-27-5 E

Chautauqua County

Griffeth et al.	1-Jullian	NEc SE 2-32-10 E

Cowley County

Hull	11-Detmer	SWc NE SW 24-32-4 E
White Oil	1-White	SWc NE 4-33-4 E
Harris et al.	1-Vickey	C NW 17-35-3 E
Harris et al.	1-Boylan	C NE 18-35-3 E

Elk County

Denton Bros.	1-Denton	SEc NE 4-30-9 E

Greenwood County

Polhamus et al.	2-Holverson	SEc SW NE 26-24-9 E
Powell et al.	1-Smith	SWc NW 8-24-11 E
Smith et al.	1-McNair	NWc SE 20-26-12 E

Morris County

Cress et al.	1-Walter	NEc SE 16-15-5 E

Sumner County

Roxana	9-River Bed	SEc NE NW 36-31-2 E
Roxana	1-Work	SWc SE 11-32-2 E
Roxana	2-Rothwell	SWc NE SW 14-32-2 E
Wasson et al.	4-Gassoway	SWc SE SW 14-32-2 E
Palmer et al.	2-Wenrich	NWc NE NE NW 23-32-2 E
Roxana	1-Miller	NWc NE 23-32-2 E
Merridan	1-Bowers	SWc 8-35-1 E

NORTH CENTRAL TE&AS

Archer County

Company	Well-Farm	Location
Goodman	1-Colman	Blk-1, BCSL
Barnsdall	1-Wilson	Blk-45, ATNC
Staley et al.	1-Seay	Sec-97, Harris Sub-Div.
Texas	1-Seay	Harris Sub-Div. Sec-110
Texas	1-Wilson	Sec-103, ATNC
Rose et al.	1-Garvey	Sec-1854, Abstract 537, TE&L
Texas et al.	1-Burns	Sec-27, Harris Sub-Div.
Texas	2-Burns	Blk-27, Harris Sub-Div.
Kol-Tex	4-White	Sec-41, Blk-12, ATNC
Weldon et al.	1-Cuba	Sec-5, Probert

Brown County

Phillips	3-Williams	Blk-792, Beck

Callahan County

Gifford	1-Hatchett	Sec.-31, D&DA
Peeples	1-Snider	Sec-60, LAL
Kelly et al.	1-Radford	Sec-79, Boal

Cooke County

Hamilton et al.	3-Bindle	Blk-81
Grant et al.	1-Dennis	Abstract-1113 Wilkinson
Oil Operators Trust	9-Klein	Blk-62
Carey et al.	2-Walterschied	Blk-73, Muenster Townsite

Coleman County

Belle	9-Pope	Sec.-11, Blk-751, Martinez
Humphrey Bros et al	1-Floyd	Sec-24, Blk 287, School
Urlan	1-Goodgio	Blk-2, Williams
Coleman Nat. Gas	1-Schirmacher	Sec-6, Blk-751, Martinez
Roth et al.	2-Smith	Sec-19, GH&H

Jack County

Security Drlg.	5-Cullers	Sec-4, Cullers
Security Drlg.	4-Cullers	Cullers

Montague County

United Prod cers.	1-Jackson	Abstract-207, Davis
Oil Oper. Trust	1-Hedgepeth	Seaborn Mills
Burton et al.	1-Martin	Blk-172, Olabarn
Bridwell et al.	1-Cunningham	Edmundson
Arco	1-Salmon	Robertson
Arco	2-Loy	Sec-4, Donaho
Archer Drlg.	1-Fortune	Nichols

Runnels County

Vacuum et al.	2-McMillin	Sec-22, Blk-532, Diaz

Shackelford County

Tandehill	1-Matthews	Sec-34, ETRR
Humble	4-Davis	Sec-219, ETRR
Big State	3-Webb	Sec-22, Blk-11, T&P
Swalton et al.	1-Reynolds	Sec-25, Blk-11, T&P
Hope Oil & Gas	1-Reynolds	Sec-26, Blk-11, T&P

Young County

Hamilton	1-Sparks	Sec-285, TE&L
Robert Oil	1-Stewart	Dawson
Robert Oil	1-Stewart	Harmon
Texas	1-Stowe	Blk-2, Poitivant

Wichita County

Hodds	2-Hodges	Sec-46, KWVFL
Texas	333-Waggoner	Sec-13, H&TC
Texas	337-Waggoner	H&TC
Continental	1-Aneele	Sec-10, Blk-7, H&TC

Wilbarger County

Texas	3-Waggoner	Sec-17, Blk-4, H&TC
Petroleum Prod.	2-Waggoner	Sec-16, Blk-4, H&TC
Phillips	2-Waggoner	Sec-30, Blk-4, H&TC
Milham	3-Waggoner	Sec-57, Blk-4, H&TC
Petroleum Prod.	1-Waggoner	Sec-16, Blk-4, H&TC
Bums	2-Ancell	Sec-2, Blk-7, H&TC

Young County

Linsley Drlg.	1-Bryan	Lyneh
White Bros.	1-Wan	Pives
Paull Oil	4-Morrison	Shuner

PANHANDLE and WEST TEXAS

Culberson County

Deep Rock et al.	1-Seay	NWc Sec-20, Blk-59, Township-7, T&P

Gray County

St. Clair O & G.	1-Stockton	SEc Sec-35, Blk-R, Lee

Moore County

Amarillo	1-Thompson	C Sec-22, Blk-26, ELRR

Pecos County

Vacuum	1-Ellsmore	NEc Sec-60, Blk-D, GC&SF
Humble	6-Smith	Sec-36, Blk-194, GC&SF
Mid-Kansas et al.	1-Yates	Sec-63, Blk-1, I&GN

Potter County

Amarillo	1-Masterson	Sec-85, Blk-O-18, DPRR

Winkler County

Llano	1-Armstrong	Sec-12-19, Blk-B-6, School
Llano et al.	2-Scarborough	SWc NE Sec-1, Blk-C-22, School
Turman et al.	5-Hendricks	SEc NE Sec-29, Blk-B-5, PSL
Gulf Prod.	10-Hendricks	SWc NE Sec-45, Blk-26, PSL
Roxana	2-Hendricks	SEc NW Sec-45, Blk-26, PSL
Roxana	3-Hendricks	NE SE SE Sec-29, Blk-B-51, PSL

Completions in N. E. Central, West, Panhandle and North Texas, Week Ended January 7, 1928

NORTH AND EAST CENTRAL TEXAS

Brown County

Company	Well Farm	Location Survey	Depth	Init. Prod.
Cranfill et al	12-Smith	SA&MG	1339-1351	20
Nichols et al	1-Watson	Taylor	T.D. 1589	Dry

Callahan County

Tallett et al	2-Alvord	Boal	985-995	15M

Eastland County

Cisco Falls	1-Rumph	Robinson	T.D. 1590	Dry

Freestone County

Roxana	1-Theile	TC	T.D. 4037	Dry

Palo Pinto County

Dixie	1-Seaman Ranch	T&P	T.D. 3900	Dry

Shackleford County

Roeser et al	4-Sec.-60	Cook	1217-1243	50

Stephens County

Texas-Pacific	5-Pierce	T&P	1525-1650	3½M

Young County

Conner et al	10-McCluskey	TE&L	4224-4230	360
Panhandle	21-McCluskey	TE&L	4173-4241	525
Panhandle	17-McCluskey	TE&L	T.D. 3415	40
Pardee et al	1-Donnell	Donnell	3353-3372	90
Nash et al	2-Hinson	Pier	2189-2210	100
Forbes	2-Graham	Ross	2058-2078	30
Tidwell et al	2-Whittenburg	Howard	2885-3925	40
Scott et al	1-Scott	Johnson	4110-4150	30

NORTH TEXAS

Archer County

Reeder et al	3-Farmer	N A R	1505-1511	16
Empire et al	1-Wilson	ATNC	T.D. 1542	Dry
Hines et al	1-Wilson	Taylor	T.D. 1511	Dry
Hines et al	2-Farmer	Chisholm	T.D. 1506	Dry

Montague County

Company	Well Farm	Location Survey	Depth	Init. Prod.
Continental	2-Edmondson	Edmondson	T.D. 1984	Dry

Wichita County

Petro'eum Prod.	5-Love	Kennary	1805-1810	30

Wilbarger County

Phillips	1-Waggoner	H&TC	2303-2321	107
Waggoner	1-Waggoner	H&TC	2285-2287	175

PANHANDLE

Carson County

Stubblefield et al	1-Cooper	I&GN	3019-3122	175
Last Chance Oil	1-McConnell	I&GN	3260-3290	200

Gray County

Magnolia	18-Morton	I&GN	3030-3164	74
Majestic	2-Bowers	H&GN	2991-3038	900

Hutchinson County

Phillips	1-Eagle	K&TC	2994-2998	246

WEST TEXAS

Crane County

Magnolia	12-Hardwick	Univ.	2915-2966	60
Magnolia	13-Hardwick	Univ.	2822-2888	400

Howard County

Magnolia	8-Chalk	W&NW	1605-1625	15
Coile-Concord	1-Roberts	W&NW	1870-1900	52
Marland	7-Clay	W&NW	1824-1840	75

Mitchell County

California	7-Adams	T&P	2930-3090	144

Pecos County

Roxana	4-Tippett	T&C	1253-1425	710
Marland et al	13-Yates	TC	1320-1450	1205
Marland et al	14-Yates	TC	1350-1450	60
Mid-Kansas et al	7-Yates	I&GN	990-1027	520

Tests Show West Texas Crudes High in Sulfur, Low Cold Test

(Continued from Page 32)

Bottoms		28.3	
	Gravity	14.1	
	Flash	515	
	Fire	585	
	Vis.	475 at 210°	
	C.T.	74	
	Color	Black	
Loss			1.0

Mid-Kansas-Transcontinental well, sec. 34½, block 1, I. & G. N. survey, Pecos county.

A. P. I. Gravity—30.

Sulfur—1.56.

Water—None.

B. S.—Trace.

Saybolt vis. at 70 degrees Fahr. 94 seconds; at 100 degrees Fahr. 57 seconds.

Cold test—Zero and flowing.

Atmospheric Distillation
Volume charged, 300 C.C.

Temperature Cut, Degrees Fahr.	Product	Vol. C.C.	A.P.I. Grav.	Yield Pct.
Up to 392	Gasoline	74	56.2	24.66
392 — 527	Kerosene	65	58.0	21.66
	Vacuum Distillation at 40 Mm.			
Up to 437	Gas Oil	19.0	28.3	6.33
437 — 527	Light Lub. Dist.	30.6	26.7	10.20
527 — 572	Med. Lub. Dist.	24.4	24.2	8.13

	Gasoline (Stratford)		29.4%	**Engler Dist.**
				10 — 188
Chg. to Still	Gravity	54.4		20 — 222
1000 C.C.	I.B.P.	126		30 — 252
	E.P.	439		40 — 278
				50 — 300
	Kerosene (Stratford)		1.3%	60 — 322
				70 — 344
	Gravity	39.7		75 — 358
	Flash			80 — 370
	Fire			85 — 386
				90 — 398
	Wax Distillate		10.9%	95 — 426
				E.P. — 439
	Gravity	30.0		
	Flash	240		
	Fire	280		
	Visc.	42 at 100°		
	C.T.	Zero & flowing		
	Color			
	Bottoms		50.0%	
	Gravity	18.3		
	Flash	345		
	Fire	390		
	Visc.	102 at 210°		
	C.T.	Zero		
	Loss		1.9%	

Crane County Field

Gulf Production Co. No. 2 Waddell, sec. 10, block 25, Crane county, Tex., 5 miles northwest of McElroy ranch, University pool development.

A. P. I.—gravity—33.2.

Sulfur—1.57 per cent.

Water—None.

B. S.—0.1 per cent.

Cold test—Zero and flowing.

Saybolt vis. at 70 degrees Fahr., 58 seconds; at 100 degrees Fahr., 46 seconds.

Atmospheric Distillation
Volume charged, 300 C.C.

Temperature Cut, Degrees Fahr.	Product	Vol. C.C.	A.P.I. Grav.	Yield Pct.
Up to 392	Gasoline	80	54.9	26.66
392 — 527	Kerosene	60	40.9	20.00
	Vacuum Distillation at 40 Mm.			
Up to 437	Gas Oil	23.8	33.1	7.93
437 — 527	Light Lub. Dist.	28.0	29.3	9.33
527 — 572	Med. Lub. Dist.	23.0	26.3	7.66

	Gasoline		35.5	
	Gravity	53.6		
	I.B.P.	146		**Engler Dist.**
	E.P.	436		
				10 — 203
	Kerosene		1.4	20 — 229
Stratford Still	Gravity	40.6		30 — 252
	Flash	156		40 — 273
	Fire	178		50 — 296
				60 — 320
	Gas Oil		17.7	70 — 343
	Gravity	34.0		75 — 356
	Flash	210		80 — 370
	Fire	250		85 — 383
				90 — 398
	Wax Distillate		21.6	95 — 418
	Gravity	26.6		E.P. — 438
	Flash	305		
	Fire	360		
	Vis.	102 at 100°		
	C.T.	80		
	Color	Red		
	Bottoms		22.8	
	Gravity	12.5		
	Flash	530		
	Fire	625		
	Vis	695 at 210°		
	C.T.	40		
	Color	Black		
	Loss		1.0	

Improper Splicing is Leading Cause Of Oil Field Belt Troubles

By Paul Wagner
N. P. N. STAFF WRITER

EVERYONE interested in belt practice in the oil fields knows that much of the belting trouble experienced comes at the joint or splices, it was brought out by Frank O. Prior of the Midwest Refining Co., Casper, at a standardization group conference incident to the Chicago meeting of the American Petroleum Institute.

The belting committee of the A.P.I. standardization group took note of this fact and, finding that approximately 50 per cent of the belting trouble came from such a source, decided that work should be done on belt fasteners. A series of laboratory tests were made and field tests are now going on to determine the best type of fastener for joining belt ends.

Results of this work have been very important. Already, according to Mr. Prior, the standard types of belt clamps on the market have been improved, better types of clamps designed and new forms of splices are being tested which promise to increase belt life or even bring about changes in ideas on splicing belts for drilling and pumping duty.

Some idea of the scope of the work can be obtained from the accompanying table of test results.

The tests in the table show in a striking way the great difference in joint strengths resulting from use of different types of fasteners and they should afford a valuable guide to belt users.

It is interesting to note here the tests and field experiences of one major producing company which operates principally in the southwest. This company tested a great many types of belt fasteners of the bar clamp style and obtained results substantially in accord with those in the accompanying tabulation.

The company referred to, however, favored the "butt joint" over the conventional "bent-up end" joint because it felt that bending the belt so abruptly in making the splice must necessarily damage the material beyond repair. Accordingly, it tested and tried a number of "butt end" fasteners, including a sample hinge fastener with which the joint was made by use of two complete hinges placed side by side. This arrangement afforded flexibility of the joint over the pulley crown and also around the pulley.

Joints made in the manner mentioned were found to develop approximately 80 per cent of the strength of the uncut belt, whereas the highest efficiency possible with any other joint was about 65 per cent. Fasteners of this type have been used extensively in the fields by this company and they are described as having proved entirely satisfactory.

IN THE A.P.I. belt fastener investigation it was early realized that a fatigue or endurance test would be one of the most important things in the work when it could be developed from a practical standpoint. Various members of the engineering sub-committee spent a great deal of time and effort on the development of such a test.

"Finally," said Mr. Prior, "one type of machine was constructed and some belts were actually run on it to determine their life. In every case it was found that fatigue took place at the spice, or clamp, and that with this type of machine the fatigue limit of the belt could never be found.

"Various members of the engineering sub-committee are still giving this very important problem some thought and it is hoped that some day such a test may be developed."

Some of the items described by Mr. Prior as affecting such a test are as follows:

(1)—Belt samples must be used with a cross-section at least one-third of the area of the section of the belt where it is to be clamped.

(2)—Fatigue from repetitive ten-

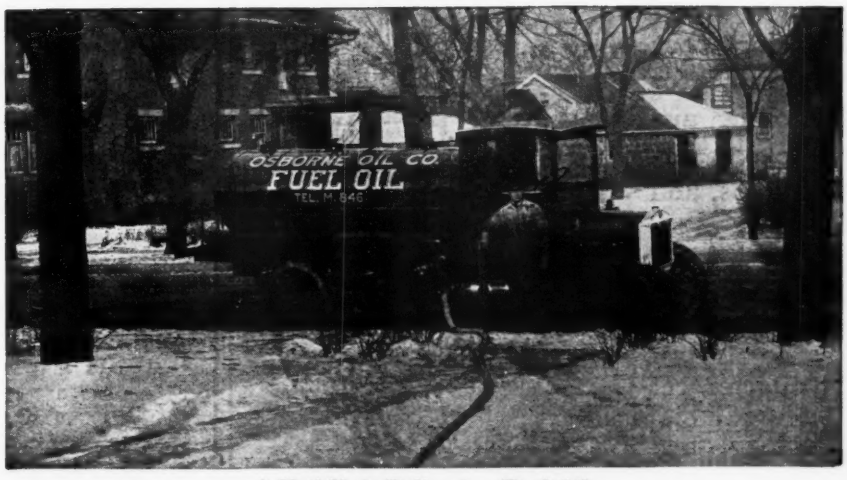
Oil Field Belting Series

THE accompanying article is the first of two or three articles on oil field belting prepared by Staff Writer Wagner from reports of investigations carried on by the belting subcommittee of the general American Petroleum Institute Standardization Committee. The reports as submitted at the Chicago institute meeting were written particularly for those engaged in standardization problems. It was felt advisable by NATIONAL PETROLEUM NEWS to use them as a basis for articles prepared for the men in the field concerned with the proper use of belting. Following articles on the same general subject will deal with proper forms of belt records and with the practicability of weighing wells to learn definitely what loads the belts must carry.

Table Showing Results of Belt Fastener Tests

Type of Fastener or Joint	Type Belt	Strength Belt, lbs., inch width	Strength Joint, lbs., inch width
Corrugated bar clamp, 6 bolts—no filler	F. S. Rubber	2275	750
Corrugated bar clamp, 6 bolts—steel filler	F. S. Rubber	2275	910
Corrugated clamp 6 bolts— no filler	F. S. Rubber	2275	914
Corrugated bar clamp, 6 bolts—Aluminum filler	F. S. Rubber	2275	916
Corrugated bar clamp, 5 bolts—rubber filler	F. S. Rubber	2275	975
Corrugated bar clamp, 5 bolts—rubber filler	F. S. Rubber	2040	823
Smooth bar clamp, 5 bolts—rubber filler	F. S. Rubber	2040	960
Steel plates, split rivets	F. S. Rubber	2275	1018
Steel plates, split rivets	F. S. Rubber	2275	1020
Steel belt hooks	F. S. Rubber	2275	1190
Steel belt hooks	F. S. Rubber	2275	1200
Bolted splice	F. S. Rubber	2275	990
Vulcanized splice	F. S. Rubber	2040	1160
Vulcanized splice	F. S. Rubber	2040	1320
Vulcanized splice	F. S. Rubber	2040	1600
Smooth clamp—5 bolts rubber filler	Impregnated stitched cotton	1840	686
Smooth clamp—5 bolts rubber filler	Impregnated stitched cotton	1840	723
Corrugated bar clamp, 5 bolts—rubber filler	Impregnated stitched cotton	1840	802
Corrugated bar clamp, 6 bolts—rubber filler	Impregnated stitched cotton	1840	861
Steel belt hooks	Impregnated stitched cotton	1840	1060

HEIL
FUEL OIL



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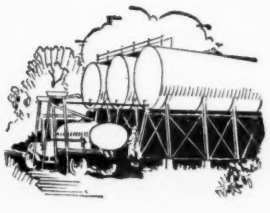

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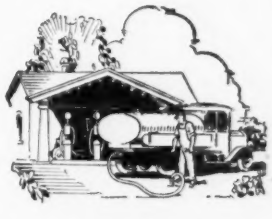

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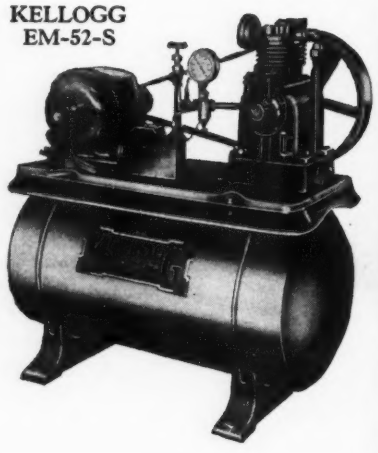

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sion must be made separately.

(3)—Fatigue from repetitive flexing must be made separately.

(4)—Fatigue from slippage must be made separately.

These requirements, according to Mr. Prior, make the problem a very difficult one, which no doubt will take the best thoughts of the engineering committee and the belting manufacturers, as well as a considerable length of time, to work out satisfactorily.

Regardless of research work, laboratory tests and specifications, Mr. Prior suggests that the A.P.I. belting committee, and especially the engineering sub-committee, must be guided by results obtained from belts in actual service.

"Service data that can be relied upon," he says, "can be obtained only from oil companies who take an interest in the proper inspection, care and use of belting and most especially proper records."

Mr. Prior urges the use of an A.P.I. uniform belt record in order that data may be comparable. Many companies are now using records, but in nearly every case these differ from each other as to form.

Continues Continental Investigation

WASHINGTON, Jan. 9.—At the request of Senator Norris, Nebraska, the United States Senate has directed its committee on public lands to investigate the transactions and activities of the Continental Trading Co. as an addition to the investigation which that committee began in 1924 but never completed.

There was no discussion. Discussion would have been useless chiefly because it could not have been confined to the ascertainment of facts needed to help the senate legislate.

Adoption of the resolution means that even if Henry M. Blackmer, formerly of the Mid-West Refining Co. and James E. O'Neil, former head of Prairie Oil & Gas Co. should have the Walsh law, providing a fine not exceeding $100,000 levied against them for failing to testify, declared unconstitutional, they will not dare come back to this country without incurring the risk of being summoned to testify before the senate committee. They would be sent to jail for contempt of the Senate if they refuse to testify. Therefore the resolution might be called a resolution to keep the sword hanging over their heads, as pointed out in NATIONAL PETROLEUM NEWS, issue of Dec. 21, page 23.

Has the Small Refiner an Economic Place In the Gasoline Business?

Contributed by the Head of a Small Plant

TWO recent remarks, both made rather casually by good authorities, when taken together, open up a rather interesting question in economics generally, and in the petroleum refining industry particularly.

The first of these remarks was to the effect that in any industry, the market price of the product is measured by the highest cost producer actually doing business in that industry.

The second remark was made a few days later by a gentleman well acquainted with the heads of some of the largest refining units. He stated that these heads deplored present conditions and small margins, but at the same time viewed with a certain amount of complacency the probable elimination of a number of the smaller units.

The general impression seems to be that the large units are the ones who regulate the prices, as they are the ones who post prices for crude, and post the tank wagon price for gasoline, thus fixing the working margin.

At the same time, the small unit is often to blame for upsetting the market, either in trying to increase the volume of its business, by shading prices, and at other times being so desperately situated, that it is forced to dump quantities of distressed goods on the market, in order to keep going.

So there seems to be a certain contradiction both in the two remarks above quoted, and also in the actual facts of the case.

This apparent contradiction is what makes the question interesting. If it is true that the price of the product is measured by the highest cost producer, then it must certainly be to the interest of the low cost producer to have the high cost producer remain in business as long as possible, even though the high cost producer gets some of the business the low cost producer could get by bidding under, and forcing the higher cost unit out of business.

In a recent account of the report of a survey by the National Industrial Conference Board, it is stated:

"Despite the conspicuous part played by large scale enterprise in American economic life, the bulk of business of all kinds is still being carried on by relatively small concerns. Even in manufacturing, where large scale production is the dominant factor as measured by output and number of employes, the moderate sized plant remains the typical unit.

"While the growth of large business has been most notable in manufacturing, nearly three-fourths of all manufacturing plants in 1925 employed only 20 wage earners, or fewer each, and about two-thirds of all plants produced goods not exceeding $100,000 in value each during the year.

"THE dominant part played by large scale production, however, can be appraised by the fact that, on the basis of 1925 data, it takes only about one-third in number of all manufacturing plants to turn out nine-tenths in value of all products and that this one-third of all plants employ nearly nine-tenths of all wage earners in the industry. Thus, while a factory employing 1,000 wage earners may be more important than 100 employing 10 workers each, significance is attached by the conference board to the fact that the large and small concerns can and do exist side by side, and in a highly competitive market."

Of course, the foregoing applies to the general average of all manufacturing industry and presents a remarkable picture when we consider the enormous number of small plants which, in the aggregate, do such a small proportion of the total business. Does this composite picture represent actual conditions in the petroleum refining business? It would be interesting to analyze the refining business to see how it compares in these respects with the average or composite of all manufacturing business. It would seem, however, that there is a natural place for both large and small units, and if the small unit really plays an important part in determining prices, it is of vital importance to the larger unit.

IT IS also generally understood that our anti-trust laws, and other laws, were designed primarily to protect and keep in business the smaller units, and promote competition. There is also apparently a paradox in this, because, if the smaller unit has higher costs, and is an important factor in keeping up the price level, the general public will pay more for the products than if the smaller units were wiped out of existence. In fact, it seems that most of our laws affecting economic conditions fail to work out as their authors intended. But, as these laws are generally put through by politicians, who seem to know little or nothing about economics, it is after all not strange that they frequently act as boomerangs, leaving unhurt those at whom they were directed, and coming back to strike and injure the very ones they were intended to protect. So, in considering the matter under discussion, the laws of economics, and not those of Congress, seem to be the ones that control.

Taking up now the question of petroleum refineries, it will be interesting to ascertain relative costs of production of large and small units, relative numbers and sizes of units, the trend, during the past few years, of margins of profits, the trend of elimination of small units, and the trend of increase of capacity of large units. All this data is available, and, when put together, should throw some light on the subject and should demonstrate whether or not there is any truth in the statement that it is the cost to highest cost producer that measures the price.

The U. S. Department of Com-

THE accompanying discussion of the place of the small plant in the refining industry is presented by a refiner who is both an engineer and an economist. His analysis of plants in this country, and their division into groups based on daily average crude capacity and cost of manufacturing gasoline, presents a graphic picture of the relation of the small plant to the big refinery in the manufacture of the principal refinery product.

It might be pointed out this discussion omits one advantage the small plant possesses, which it perhaps could take advantage of to a greater degree. There are other products than gasoline to be considered for the smaller refineries and a local or convenient industrial market to be considered in each case. Some few plants at least are putting their effort on special products, with a higher margin of profit to the manufacturer, because they are not as competitive as gasoline.

A Friendly Suggestion

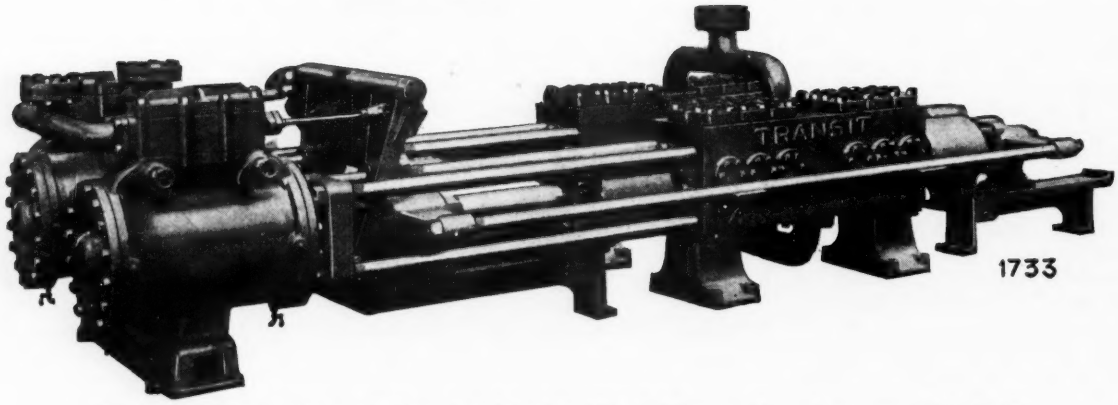

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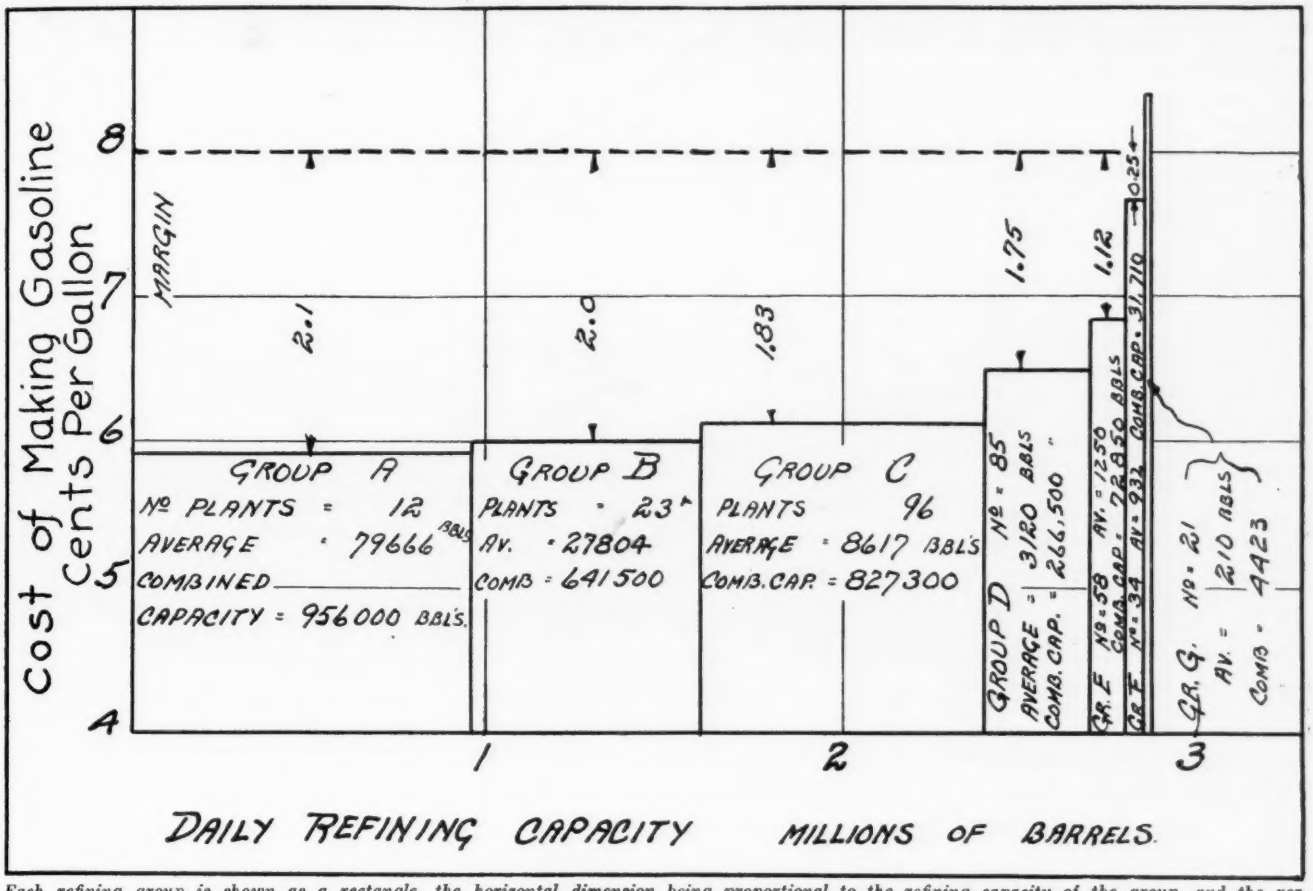
CHART NO. 1. REFINING PLANTS GROUPED BY SIZE, COST OF MAKING GASOLINE AND RESULTING MARGIN ON AN EIGHT-CENT MARKET



Each refining group is shown as a rectangle, the horizontal dimension being proportional to the refining capacity of the group, and the vertical dimension proportional to the estimated cost of manufacturing a gallon of gasoline

merce published a list of the petroleum refineries in the United States Jan. 1, 1927, giving size, type, name, location and condition of each plant.

Analyzing this list, the following interesting facts are brought forth:

In 1918, the number of refineries in the United States was 276, with a combined capacity of 1,186,155 barrels per day, the average size being 4,400 barrels per plant.

In May, 1925, the number had about doubled to 550. The combined capacity was 2,853,842 barrels and the average size had increased to 5,200 barrels.

Lately there has been a decline, so in January, 1927, there were only 466 plants.

Of these only 329 were operating with a combined capacity of 2,800,333 barrels, the average size of plants being 8,600 barrels per day.

This certainly shows a trend toward fewer and larger units.

The accompanying table shows the plants in existence in January, 1927.

A comparison of the table of plants operating with that on those shut down shows:

That, of the big refineries in classes A, and B, 100 per cent were operating. In Class C, (5,000 to 10,000 bbls.) 8 were shut down, and 96 operating, or about 8.0 per cent shut down.

In Class D—(2,000 to 5,000 bbls.) 39 were shut down and 85 running, or 31 per cent were shut down.

In Class E—(1,000 to 2,000 bbls.) 34 were shut down, and 58 running, or 37 per cent shut down.

In Class F—(500 to 1,000 bbls.) 34 were kept running and 34 shut down, or 50 per cent shut down.

In Class G—(under 500 bbls.) 22 were shut down and 21 operating, or 51 per cent shut down.

Also it will be noted that, of the

REFINING PLANTS OPERATING JANUARY, 1927

Class	Number	Combined Daily Capacity	Average Size Bbls. per Day
A	12	956,000	79,666
B	23	641,500	27,804
C	96	827,300	8,617
D	85	266,550	3,126
E	58	72,850	1,250
F	34	31,710	932
G	21	4,423	210
Total—	329	2,800,333	8,600

REFINING PLANTS SHUT DOWN JANUARY, 1927

Class	Number	Combined Daily Capacity	Average Size Bbls. per Day
C	8	49,500	6,200
D	39	104,000	2,620
E	34	43,550	1,275
F	34	20,050	587
G	22	4,725	214
Total—	137	221,825	1,620

total capacity of 3,032,000 bbls. per day, only 221,825 or 7.3 per cent of the country's total refining capacity was shut down. Therefore, it would seem that, even if 137 plants were shut down, the situation as regards over refining capacity is not much improved.

Of the plants in operation, the 12 Class A plants have 34 per cent of total present operating capacity.

The 23 Class B plants have 23 per cent of total present operating capacity.

So the 35 plants of these two classes have 57 per cent of the entire operating capacity of the country.

At the other end of the line, the 113 plants in Classes E, F and G, have a combined capacity of only 3.9 per cent of the total. The total volume of their business, only 3.9 per cent, is so insignificant, that, even if it could be absorbed by the big competitors, they would scarcely notice it.

But, assuming it is true that the smaller units are the higher cost producers, and that it is the cost to the highest cost producer remaining in business, that measures the price of the product, what would happen to the margin of profit of the big units if these 113 small plants could be put out of business?

In order to tell the story graphically, Charts Nos. 1, 2 and 3 have been prepared.

Chart No. 1 shows graphically the different groups of the 329 plants now in operation. Each group is shown as a rectangle, the horizontal dimension being proportional to its refining capacity, and the vertical dimension proportional to estimated cost of producing a gallon of gasoline.

The 137 dead plants are not shown on this sketch. If they were, they would be represented by a very narrow rectangle with little refining capacity, but with costs even higher than for those now in operation. It is fair to assume that if their costs had not been higher, they would not now be shut down.

Chart No. 2 shows the approximate relation between size of plant and all costs, except that of crude, which go into the making and marketing of a gallon of gasoline. Gasoline is used as the product, since it is the principal product. The cost curve is an ideal, and naturally can not take into account all factors, such as location, nature of crude, transportation, marketing, etc. It is simply meant to show the influence of size of plant on cost of product, all other conditions being equal. Of course all other conditions are not equal, but will more or less strike an average when a large number of plants are considered.

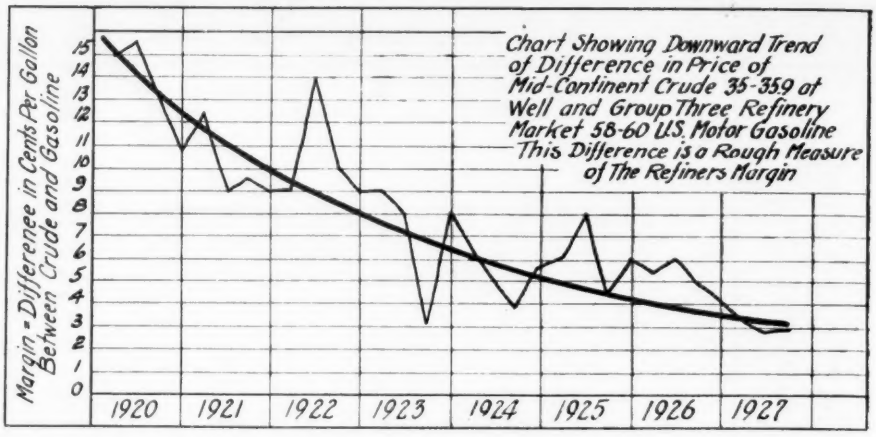


Chart No. 3

Cost Figures Are Relative

THE figures given on the charts in the accompanying article, as regards cost of gasoline, are not absolute, but merely represent the estimates of the author of the paper, and are submitted for purposes of comparison only. The author used "A" on the charts in connection with the cost figures to indicate that they were not absolute figures.

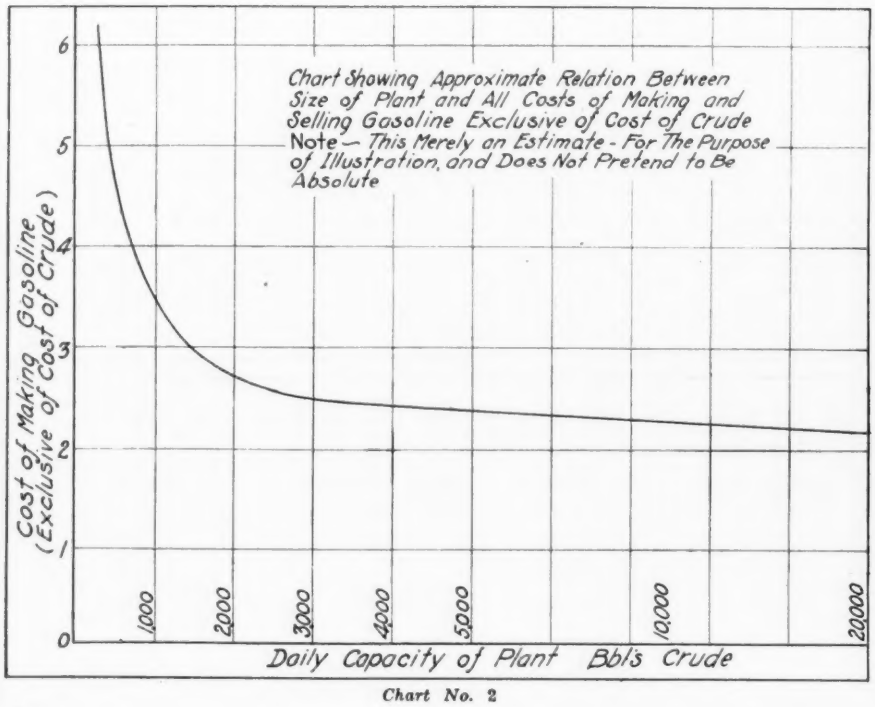


Chart No. 2

Two engineering authorities have been consulted on the question of size with relation to cost. One made the statement that a 1,500-barrel plant could manufacture and sell as cheaply as a large plant. The other stated that his investigations showed that a 5,000-barrel plant could produce as cheaply as the larger units. It would seem from independent estimates that the 5,000-barrel plant is nearer the truth, and that there should be a very small saving in cost per gallon, a small fraction of a cent, for the very large units, but not enough to make much difference.

Chart No. 3 was made up from published statistics on the price of Mid-Continent crude at the well, and the price of 58-60 Motor gasoline in Group 3 in tank car at refinery. This difference in cents per gallon is taken as a rough measure of the refiners' margin per gallon. To save labor, the price on the last day of each quarter was used, as that would be sufficient to show the trend.

This chart is most interesting when considered in connection with the other two, and the history of the refining industry during the past seven or eight years.

It shows that, while there have been ups and downs in the margin, the general trend has been steadily downward. While an average margin of 13 cents per gallon was enjoyed in 1920, it has been dropping, so that for the past eight months it has been only 3 cents per gallon. Out of this 3 cents the refiner must pay trans-

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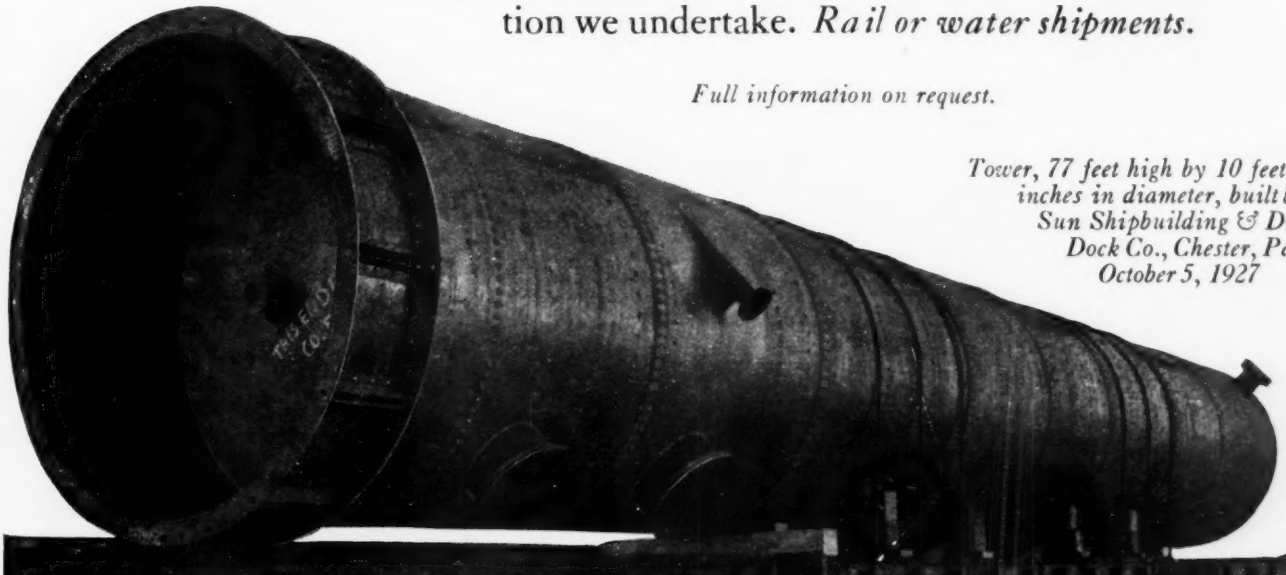

Tower, 77 feet high by 10 feet 6 inches in diameter, built by Sun Shipbuilding & Dry Dock Co., Chester, Pa., October 5, 1927

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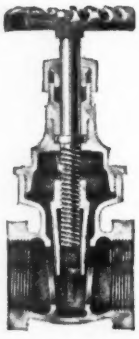

Sectional View Fig. 370, screwed Jenkins Standard Bronze Gate Valve.

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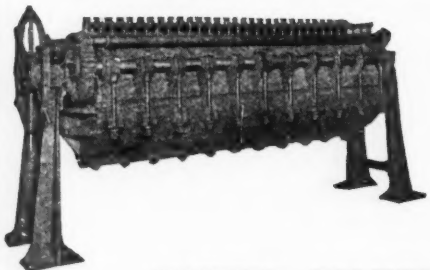

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portation of crude to the refinery, all operating costs at refinery, sales expense, general office expense, taxes, and in addition absorb his loss on fuel oil, if that is the principal other product. It is not surprising that 137 plants have already shut down, and it looks as though a lot more should shut down soon.

At the same time it is doubtful if those in control of the big units should view with complacency the closing down of the remaining 113 of the smaller units, who after all run only 3.9 per cent of the crude used.

The margin trend as shown on Chart No. 3 would seem to be a good example of the "law of diminishing returns." This graph, taken in connection with the history of refinery building, looks as though in 1920 and preceding years, the refining business was extremely lucrative, enjoying a very wide margin of profit. As a natural result, capital was attracted. Refineries of all kinds and sizes were built. Refining capacity soon far exceeded requirements. Ruthless competition in one way or another reduced the margin. As the margin dropped, the higher cost producer had to shut down. When the remaining small refineries are shut down, there will then be left only the larger units, who competing among themselves could still further reduce the margin so that even the largest ones will show poor earnings.

Turning again to Chart No. 1, if there is anything in the economic law that the higher cost producer is the one whose costs in the long run measure the price, then the bulwark or dam is very small, if we regard the small unit as protecting the margin for the big one.

Undoubtedly there is something in this so called economic law. A large number of very small units can, under certain conditions, be the best asset of the big units. Some of our politicians' favorite sport is going after the big units. Public sentiment has a great deal to do with prices and margins. So, with enough small units left in business, and continually yelling about low prices and small profits, the margin can be kept somewhere near where it belongs so as to yield a profit to all.

PARKERSBURG, W. Va.—John M. Crawford, founder and head of the Parkersburg Rig & Reel Co., Parkersburg, is spending a good deal of his time away from the oil field supply business, because he is Grand Commander of the Knights Templar of West Virginia. He recently finished a six weeks' trip visiting and inspecting every commandery in the state.

Two-score Tests in Logan County Searching Production 6000 Feet Deep

By Lawrence E. Smith

N. P. N. STAFF WRITER

TULSA, Jan. 9

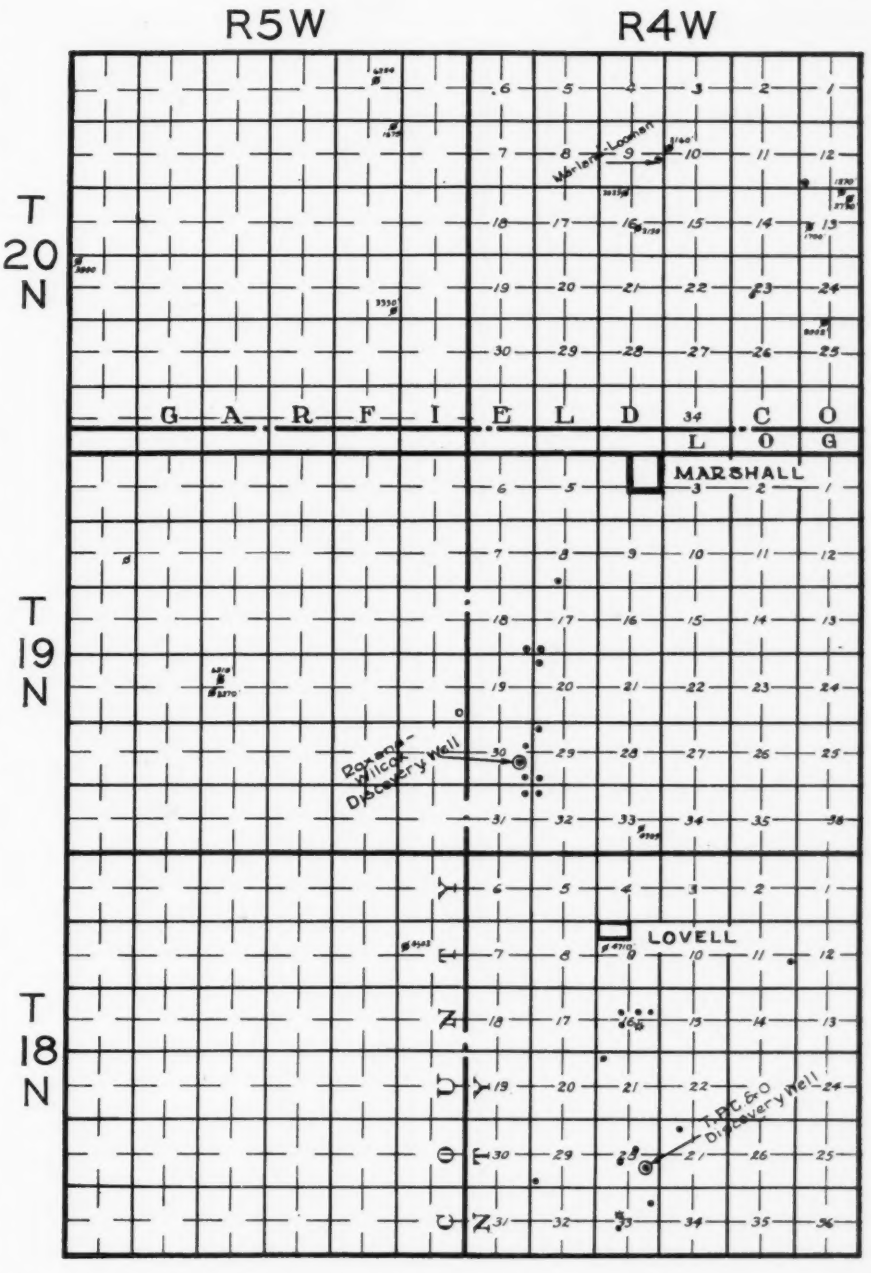
'TIS A cruel depth to the Wilcox sand in Logan county, Okla., and a punishing cost for drilling a well. Just call it 6,000-foot development and let it go at that. The play is on by two-score tests to get more of this deepest of Mid-Continent production.

Looking south from Marshall, Okla., the view would impress one unacquainted with the territory as showing a field in a fairly advanced stage of development. Several miles ahead the derricks are strung out, two here, three there and four farther along, fighting it out around a fence corner. It is difficult to realize that all the fuss was stirred up by one substantial producer and several which have made small amounts of oil and gas from horizons higher than the Wilcox. The latter are termed the "shallow" wells in Logan county—they are only a matter of 4,000 feet plus in depth.

Our old friend the short term lease is responsible for many wells being drilled in the county. Looking at an acreage map of the two townships getting the heavy play, one gets the idea about half of the leases expire next March 21 and the other half the day following. There is not much exaggeration about that statement.

Nearly five years ago heavy leasing activity was carried on in Logan county, planned and executed by local enterprisers. One or two shallow holes were financed by acreage sales. The leases were largely of the five-year variety and furthermore were the "complete" type. That is, they call for a well to be completed by a certain day. There was some activity in this territory in the leasing line when Garber deep sand production was found and the companies began stepping out ahead for miles.

It is nearly impossible, say those who have tried it, to get a renewal of a lease in either of the two townships undergoing the biggest share of the wildcatting. The farmers know there is just as much oil under their lands as there is under the McCully farm, where the Roxana Petroleum Corp. drilled into the big pay last June, got a well in the Wilcox which never has fallen below 2,200 barrels a day and to date has produced more than 400,000 barrels. They don't want renewals, they want drilling, hence this drilling campaign of more than 25 wells, each of which, if carried to the Wilcox, will cost $100,000 or better. There isn't enough history yet to say what they will average, but nobody expects to get out for less than $100,000.



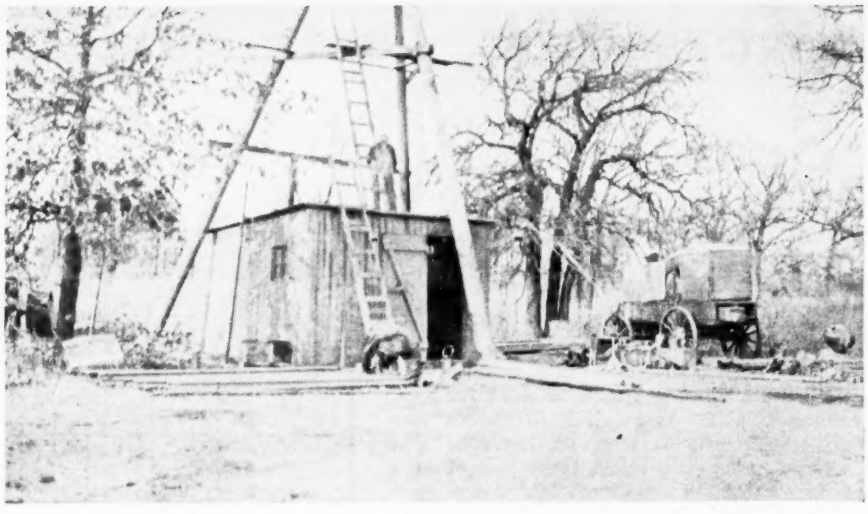
Principal operations of Logan county, Okla., are shown. The county now has eight wells producing oil and gas, although only one is producing in substantial quantity

That's a lot of money to shoot on a wildcat, especially when there is territory in the Seminole district, say, whose percentage of success can be estimated more accurately. The Logan county stuff that is being drilled must be drilled, however. There is one big well that has paid out several times. How much more of it there is can be told only by the drill. Everybody in striking distance of the big well feels that he might be giving up something of great value if he let his leases expire. The same type

of folding that accumulated the Garber production, 20 to 25 miles north of the heavy drilling in Logan, might be operative again.

One change in present practice that might have been made advantageously lies in the spacing of the wells. The pattern operators are proceeding upon now appears to call for a well to each 10 acres. That is the same program followed in Burbank, where the wells cost around $40,000 to drill.

Concentration of activity, as stated, is in two townships. The big well of the Roxana is in 19N-4W, the well being in Sec. 30. The township to the south of this, 18N-4W, is undergoing a campaign as great as that containing the Wilcox discovery, partly because of the belief in a southerly trend of the pay and partly because certain of the aforementioned "shallow" oil and gas wells are producing in what would be termed a commercial sense and must be offset.



Core drill at work in Logan county seeking structural evidence. It belongs to the Marland Oil Co.

WITH expiration dates so near at hand on much acreage where no development work has been started —and no likelihood of getting a well down to any form of production within the remaining time—the "top" leaser is making his appearance. The practice of getting a lease which becomes effective with the expiration of the old one finds conditions well adapted to it in this locality. As mentioned, the leases in effect are mainly of the "complete" variety; it is not sufficient for validation purposes to start a well by the expiration date. Hence, on quite a few leases, the change in ownership will be made very quietly along in March; in fact, the change has already been made and merely awaits the day of expiration to become effective.

Guthrie, the old capital of Oklahoma Territory, is the operating center of the field, as far as there is one. Here the lease brokers, company land men, scouts and contractors gather in the evenings. The local oil talent has done its share to encourage the boom to reverberate in Guthrie. Club rooms have been fitted up and the keys of the city hung on their walls. The best place to find anyone who has something to do with the development is in Guthrie. Just wait long enough and he will appear.

On the surface, it is good country in which to operate. The roads are well maintained except for some of the laterals off the main highways and even these are good except in the wettest weather. The terrain is gently rolling, drainage features being adequate to dry up the soil quickly after a rain. The water supply may be something of a problem next summer during the dry season. The Cimarron River is the principal stream through the county and is within easy distance for piping water to the drilling wells, but is not good boiler water.

The development is now almost wholly rotary drilling. The discovery well of the Roxana was drilled with cable tools, but nearly everything that has since been started is rotary. In the Roxana's practice, the 8-inch is set at about 4,000 feet and the 6-inch at about 5800 feet. Both are cemented at those depths. Standard tools are brought in at the lower point and the completion to the Wilcox is by cable tool method.

Practically every make of derrick known to civilized man is to be found in Logan county. Steel derricks predominate, although there are several of the combination wood and steel and here and there is displayed some contractor's belief that nothing is quite as good as the old "nail rig."

Steam is the only form of power the writer observed on a trip through the field. It is common practice to set three boilers, one to be used as a spare and put into service when one is down for repairs or cleaning. The heaviest of equipment is in service. Compromises with ideas of what is good practice doesn't go in such deep territory, for a lost role might be ruinous to the contractor.

BEGINNING at the northernmost well which has a bearing on the future of this territory, one starts at the Marland Oil Co.'s Looman test, in the NE SE of 9-20N-4W, the township next north from the Roxana discovery well on the McCully farm. The Looman well is in Garfield county. The latest reported drilling depth was 5692 feet. (In the depths of wells noted hereafter, it will be understood that they probably are somewhat changed by the time this is published.) The Looman well has made slow time through the Mississippi lime, of which it has had a thicker section than wells farther north. Sometimes its progress was as little as one foot a day. It had a small amount of oil above the big lime, which is something of an encouragement.

Marland has another test in this township, this being the Miller, in the SW corner of Sec. 12, a little better than two miles south of east of the Looman test. This is shut down at 4586 feet awaiting the outcome of the Looman. It had a sand at 4572 feet which yielded a hole full of water.

Stepping over into the township next west, in 20N-5W, one of the industry's many financial tragedies is found in the SW NE of Sec. 2. The Sinclair Oil & Gas Co. has just abandoned its deep test at 6254 feet. It developed a fishing job at that depth and after weeks of struggling in a small hole to recover the lost tools, the operators gave it up. At that depth a driller is a long way from his work. It failed to reach the objective Wilcox sand.

THE tourist would next swing around and go to the town of Marshall, just outside of which he would see signboards advising him of the proximity of the Roxana oil field. The town of Lovell, nearer the discovery well, insists that it be called the Lovell field, while a new town that has sprung up near the well calls itself Roxana. Farther away, as in Tulsa, the whole enterprise is referred to merely as the Logan county development.

Going southwest of Marshall, the first well visited would be that of the Champlin Refining Co., which is taking a whirl at this deep territory in the SE SW of 8-19-4W. This well, No. 1 Musgrove, is drilling at 3560 feet. Incidentally, this is one of the best looking outfits the writer has seen in many a year. Boilers are housed in a steel building. Champlin supplied the housing. Experience has shown this company that the saving in fuel and water, which it supplies, more than repays the cost of the building. Steam lines in the boiler house are manifolded, enabling the driller to cut out any boiler and switch steam around anywhere instantly and

with no loss of time in fitting new connections. The neatness of the derrick floor is noteworthy. Contractors are M. T. Smith & Son, of Oklahoma City.

The first fence corner row breaks out a little more than a mile southwest of the Champlin test. Roxana is drilling at 5000 feet in its No. 1 Freelove, SW corner of 17-19-4W. One location west of this, SE corner of Sec. 18, Sinclair is down to 4290 feet and one location south of the Roxana well, the Twin State Oil Co. recently started up in the northwest corner of Sec. 20, present footage being 1610 feet. Sinclair's well is on the Weber farm and Twin State's on the Shaffer.

AFTER inspecting these northerly wells, the road leads very naturally to the Wilcox discovery well, which is responsible for the campaign. This is the No. 1 McCully, in the SW NE SE of 30-18-4W. It has total depth of 5985 feet and since the end of June has produced about 400,000 barrels, at no time falling below 2200 barrels per day. It has done this with a string of tools in the hole. It is just in the top of the true Wilcox sand. Oil was found in the Simpson formation in several thin sands and the well produced upward of 250 barrels per day in this series before getting the big pay.

This well makes about 2½ million feet of gas per day and from this the Roxana recovers through a nearby gasoline plant about 7000 gallons daily. The greater part of the residue is used to fuel drilling wells in the vicinity. The crude is moved through pipe line to the Roxana's Garber station and the gasoline handled through a line to loading rack on the Santa Fe railway, two and one-half miles east. The crude is 41 gravity, A. P. I. scale.

Some indications of structural conditions in the discovery well area are afforded by the Roxana's second well, the No. 1 Stephens, which is in the SW SW of 29-19-4W. As this is written, the well is drilling at 6098 feet and apparently has not touched the true Wilcox horizon. As the discovery well and the Stephens are only a quarter of a mile apart, steep folding is apparently indicated. The discovery well had top of the Viola lime at minus 4774 feet, while the Stephens got it at minus 4840 feet, or 66 feet lower. Sedimentation, however, plays a part in the greatly increased depth to the Wilcox, for the discovery had only 5 feet of the Viola lime and the Stephens more than 100 feet.

The Stephens well, like the discovery, is making oil from the sandy lime and shale above the Wilcox, generally regarded as the Simpson formation. From these thin pay streaks it flows 25 to 50 barrels per day with about 2 million feet of gas.

Roxana found also a marked difference in the thickness of the chief Mississippi lime member between these two wells. The McCully, or discovery, had about 100 feet of this formation, while the Stephens had about 155 feet. These figures are preliminary and subject to revision, but they serve to indicate that the Logan county development will reveal marked irregularities in thickness of beds.

Going back north from the discovery well about three-fourths of a mile, Roxana is under way with a test in the NW corner of Sec. 29. This one, the No. 1 Ross, is drilling at 5,800 feet. At this point the new town of Roxana, platted on a 40-acre townsite, is in the making. As yet it consists of very small buildings, but has high hopes for the future.

A half mile south of the Ross well, in the SE NE of Sec. 30, Roxana is down to 5221 feet with No. 1 Sebranek. Roxana has started its No. 2 McCully, on the same farm as the discovery, in the southeast corner of Sec. 30. Offsetting it to the south is the L. H. Wentz No. 1 Williams, in the NE corner of Sec. 31, drilling at 5535 feet and an east offset to the Wentz well and hence a south offset to the Stephens is the Roxana No. 1 Williams, in the NW corner of Sec. 32, drilling at 5820 feet. Thus there are four drilling operations around this section corner, one of them a near completion and two down to the point where a few weeks will tell the story.

EXCEPT for the Bryan-Emery well in the NE SE of Sec. 33, nothing else is going on in 19N-4W. The latter well reached a depth of 4504 feet. It had a good showing of oil higher up, but mechanical difficulties prevented the operators from going on to the Wilcox and it is being abandoned.

Roxana thus has the lion's share of the 19N-4W development. In the next township to the south, 18N-4W, more corporate faces are seen.

In this township the real discovery well of Logan county was drilled. About five years ago the Franklin Oil Syndicate put on a leasing campaign, then sold acreage to finance a test. The well was stopped after reaching about 2,000 feet. There it was taken over in 1926 by the Texas Pacific Coal & Oil Co. and completed to a sand in the Tonkawa series, from which the well is producing about 20 barrels per day on the pump.

This well had first gas at 3874-80 feet and developed its maximum amount of gas at 3890 feet. It then picked up an oil sand at 4061-64, shale from 4064-85, sand again from 4085-89, its present total depth. The well, No. 1 Sy. Moore, is in the SW NE SE of 28-18-4W.

The Texas Pacific company has another producing oil well, making its production from about the same stratigraphic level as the Sy. Moore. This is the No. 1 Speaks, in the SE NW of Sec. 33. Its total depth is 4150 feet and it had first oil at 4119 feet. It is making about 6 million feet of gas, 20 barrels of oil and 60 barrels of water, flowing its production. Arrangements have been made to supply the town of Crescent with gas from this well.

Offsetting the Speaks well to the south is the No. 1 Smith of Ramsey Brothers, of Oklahoma City. This one is in the NE SW of Sec. 33 and is swabbing 75 barrels of oil from a sand at 4119-25 feet. It is also making water.

A deep test in this area is the Texas Pacific's No. 1 Rahe, NW NE NW of Sec. 27. It is drilling at 6132 feet. Mississippi lime in this test was found at 5665-5792 feet and the Viola from 5978 to 6044 feet. It made a little oil at 6044 feet. It is making about two bailers of water per hour from the Simpson, overlying the Wilcox.

Other operations in this part of 18-4E include:

Blackwell Oil & Gas Co.'s No. 1 Sode, NE SW of Sec. 28, sand 4023-35, water, shut down at 4146 feet.

Sinclair Oil & Gas Co.'s No. 1 Knecht, SW SW NE of Sec. 28, drilling at 5500 feet.

Healdton Oil & Gas Co.'s No. 1 Gragg, SW corner of Sec. 29, drilling at 3718 feet.

Prairie Oil & Gas Co. & Twin State's No. 1 Sy. Moore, SE NE NE of Sec. 33, hole full of water at 4420 feet, drilling ahead.

North of this group of drilling and producing wells, also in 18-4W, another group was called for in Sec. 16 by the drilling of two combination oil and gas wells. In the NW SE of Sec. 16, Wood, Gilbert and Wood, completed a well some time ago that made initially 12 to 13 million feet of gas and maximum production of 80 barrels of oil. The oil production has fallen to 45 barrels; the gas also has declined. Production was found at 3980 feet.

IN THE SW SE NE of the same section, Ramsey Brothers have a well which gauged initially 10½ million feet of gas from a sand at 3988-4012 feet. The gas production has fallen to a low figure, but the oil amounts to 90 barrels per day.

Near these wells the following are drilling:

Roxana No. 1 McDaniels, NE SW of Sec. 16, at 2460 feet.

Marland Oil Co. No. 1 Gragg, SW NE of Sec. 16, at 2965 feet.

Mid-Continent Petroleum Corp. No. 1 Poston, SE NW of Sec. 16, at 1885 feet.

Marland has also started No. 1 Knecht, in the NW corner of Sec. 21.

Off to the northeast of these producing wells in Sec. 16 is the test of Welch, Acton & Brown, of Guthrie,

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and Harris & Haun, of Blackwell. It had production in the Layton sand found at 4754 feet. It swabbed about 200 barrels per day from this horizon after flowing by small heads. It is now drilling at 4865 feet. Like the other "shallow" oil in this territory, the Layton sand production was of high gravity—averaging about 45 degrees A.P.I. Champlin Refining Co. and Bolene Refining Co., both of Enid, are buying the "shallow" production from the several wells.

The aforementioned tests cover everything that has bearing on the near-future story of Logan county. Whether the "shallow" horizons thus far found will ever pay off in any well is doubtful, although the lensy condition of these sands is known and there are some who assert that a thick body of sand, well saturated, may yet be found at the 4,000-foot level.

The chief hope of those who are spending the money, however, is the Wilcox. By the middle of the summer a dozen or so of tests to this horizon should have been completed.

Geologist Holds Crude Is Cracked By Nature

CLEVELAND, Ohio, Jan. 5.—The crude oil which men pump from wells and send to refining stills has already undergone a distillation in laboratories of nature vaster than any man-made refining plant, according to John L. Rich, consulting geologist of Ottawa, Kansas, who advanced a new theory of the generation of petroleum at today's meeting of the Geological Society of America.

Mr. Rich pictured the formation of petroleum as an incident of the formation of mountains back in the dawn of time.

The sediments containing the "mother rocks" of petroleum were caught, he holds, under the mass of the growing mountains and there under terrific pressure at high temperatures—conditions such as are present in cracking stills used in modern refineries—the rocks were cracked into crude oil and natural gas.

"The high gas pressure drove the oil toward the rim of the affected area," he continued. "Later as underground circulation of fluids was established the oil might have been carried far from its place of origin and more or less altered on the way."

The Kansas geologist argued that his theory is more in accord with findings of field geologists than the generally held theory that oil supplies were formed at the places where drillers now tap them.

Curtis Pneumatic Machinery Co., St. Louis, has issued its 1928 catalog C-74 covering Curtis air compressors for tire inflation, paint spray work, car washers, air stands and rotating lifts. The catalog has 44 pages and has many illustrations.

Texas Would Return to State Oil Rights To Millions of Acres Under Lease

HOUSTON, Jan. 7

APPROXIMATELY 5,000,000 acres of west Texas asylum and public school lands, both sold and leased, are affected by proceedings to be argued before the supreme court at Austin, Jan. 18. Then the U. S. Supreme Court will have for decision the constitutionality of the Texas relinquishment act, under provisions of which hundreds of thousands of acres of oil and gas leaseholds have been given by surface owners to operating oil companies.

An adverse ruling of the supreme court would invalidate these leaseholds, some of them already richly productive, and vest all their mineral rights in the state.

The juiciest plum at stake is a large part of the Yates field in Pecos county, which the state of Texas sued to regain on the ground that the relinquishment act is unconstitutional. As the situation now stands the state of Texas gets one-sixteenth royalty from public school lands transferred to Yates or others in the Pecos field and the landowners, or their assigns, get the other sixteenth royalty. An adverse ruling on the constitutionality of the relinquishment act would revert the remaining fifteen-sixteenths of oil and gas rights to the state in addition to the one-sixteenth already reserved under legislative enactment.

Payment for oil run from disputed properties in the Yates field is being made by the purchasing agencies only when adequate bond is posted; otherwise, the purchasers are reserving payment until disposition of this pending litigation.

THAT a rather involved situation may be understood it is necessary to trace the various enactments of the Texas legislature affecting mineral rights, under public school and asylum lands, since the early part of the present century.

More than 20 years ago, the legislature provided that the land commissioner should classify all lands for sale as mineral, grazing or agricultural, or as combinations of these three classifications. The legislature also provided that, whenever land was sold after mineral classification, the minerals were reserved to the state.

Public school and mineral lands sold before passage of this legislation naturally, were unaffected. So two classes of public lands exist in Texas, those in which the minerals belong to the landowner in their entirety and those coming under the legislative enactments described.

The land classification act includes all Texas state lands not covered by the permit law passed by the legislature in 1913 and amended in 1917, 1919 and 1921 to provide for development of minerals in unsold public school lands.

SINCE the state had to adopt some policy to induce developments on lands sold with mineral reservations the question was whether to extend the permit law or make some other provision for handling. Then, in 1919, it passed the relinquishment act, which was two-fold in purpose:

(1)—It undertakes to make the landowner the agent of the state for sale of oil and gas, or effecting oil and gas leases, and,

(2)—In consideration of the landowner's services the state surrenders fifteen-sixteenths of the oil and gas, reserving a one-sixteenth royalty to itself.

As shown in two articles of the act, which follow, the legislature provided for the landowner retaining a similar royalty for himself and assigns. The act also provided for the payment to the state of 10 cents an acre out of the original bonus, or sale, and 10 cents an acre annual rental to be paid the state through the land commissioner:

"Article 5367—School and Asylum Lands—The state hereby constitutes the owner of the soil its agent for the purposes herein named and, in consideration therefor, relinquishes and vests in the owner of the soil an undivided 15/16ths of all oil and gas which has been undeveloped and the value of the same that may be upon and within the surveyed and unsurveyed public free school lands and asylum lands and portions of such surveys sold with a mineral classification, or mineral reservation, subject to the terms of this law. The remaining undivided portion of said oil and gas and its value is hereby reserved for the use of, and benefit of, the public school fund and the several asylum funds. (Acts 2nd C. S. 1919, P. 249; Acts 1st C. S. 1921, P. 112).

"Article 5368—Sale and Lease By Agent—The owner is hereby authorized to sell or lease to any person, firm or corporation, the oil and gas that may be therein upon such terms and conditions as such owner may deem best, subject only to the provisions hereof, and he may have a second lien thereon to secure the payment of any sum due him. All leases and sales so made shall be assignable. No oil and gas rights shall be sold hereunder for less than 10 cents per acre per year, plus royalty; and the lessee or purchaser shall in every case pay the state 10 cents per acre per year of sales and rentals; and in case of production shall pay the state the undivided one-sixteenth of the value of the oil and gas reserved herein and like amounts to the owner of the soil. (Acts 2nd C. S. 1919, P. 249)."

One of the grounds on which the relinquishment act is being attacked is that the public free school lands are, in effect, a trust fund for the schools and that no relinquishment can be made legally without a consideration being paid.

ANOTHER phase of the situation involves similar lands affected by legislative enactment in 1925. After hard years in west Texas, resulting from drouth and economic conditions, many landowners got behind on their interest payments on state lands, even as far as four and five years. The land commissioner, in his discretion, did not forfeit the lands back to the state; but the legislature did, in its 1925 enactment.

The legislature, in passing the 1925 forfeiture act, however, made provision for appraisal of the lands and gave the old owners preference rights. A paragraph in that act provides that, in all cases of land formerly classified as mineral bearing, prior to sale, the state would reserve one-sixteenth of the oil, gas and other minerals. Previously, the state had reserved all minerals; and under the relinquishment act had undertaken to surrender fifteen-sixteenths of the oil and gas only, reserving one-sixteenth to itself.

THE oil and gas bureau of the West Texas Chamber of Commerce, attorneys for various oil operating companies and J. T. Robison, Texas land commissioner, are opposing efforts of the attorney general's department to have the relinquishment act declared invalid.

Counsel for Ira G. Yates, largest landowner in the Pecos field, not only has similar issues to fight but also mandamus proceedings against Robison wherein applicants seek to compel the land commissioner to issue permits to drill under the permit law affecting public lands.

H. J. Adair, manager of the oil and gas bureau of the West Texas Chamber of commerce, has issued a state-

ment, which sets forth its position clearly, as follows:

"Chairman Hamilton and members of the oil and gas bureau feel certain that, should this relinquishment act be declared unconstitutional, that it would work great hardship all over west Texas. We are going to Austin in force to support Commissioner Robison in the mandamus suits.

"We know that a large number of citizens in west Texas will be adversely affected if the law is knocked out and that it will have the same effect upon the oil business.

"Titles to oil and gas rights would have no value if the courts hold the legislature had no authority to allow landowners the fifteen-sixteenths."

THIS traces down to date the somewhat complex situation affecting public school and asylum lands under the various legislative enactments since the early part of the present century. It does not, however, trace all the land tangles affecting west Texas oil and gas leaseholds. There is also for disposition the University land tangle, in which separate and distinct issues are involved.

A law passed by the legislature in 1925 provided for disposal of University lands by sale to highest bidders, to whom permits would be issued, instead of the old system under which filings were made on a basis of 10 cents bonus and 10 cents annual rental.

In a mandamus suit against the land commissioner, George W. Theisen of El Paso sought to compel issuances of a permit to prospect University land in Crane county. The ground is taken by Theisen that the 1925 act is cumulative and that the state now has two policies of handling University lands, since the later enactment did not expressly repeal the mineral permit law of 1917.

Other similar mandamus cases are before the courts, including a suit by Rosa Frank of Dallas, filed on the same land, the only difference in their filings being that Theisen filed on the tract as surveyed land and Rosa Frank as unsurveyed land.

Commissioner Nickels at Austin recently gave an opinion holding the 1917 act unconstitutional, but this is now of no effect legally because the supreme court then withdrew the case from the commission and set Jan. 18, next, as a date to hear arguments on this and other cases affecting the various public land issues.

NEW BOSTON, Mich.—Robert Marshall, formerly credit manager at Detroit for the Standard Oil Co. of Indiana, and L. Waterman, formerly agent at New Boston for the same company, have erected a bulk station here. The station is already in operation. Marland Oil Co. products are being handled.

A. P. I. to Publish Book Giving Petroleum Facts and Figures

Staff Special
NEW YORK, Jan. 7

PUBLICATION of a 300-page book giving facts and figures about the petroleum industry which have never before been gathered together into one volume has been undertaken by the division of public relations of the American Petroleum Institute, under the direction of Trell Yocum, head of this division since the resignation of Judson C. Welliver to return to the newspaper field.

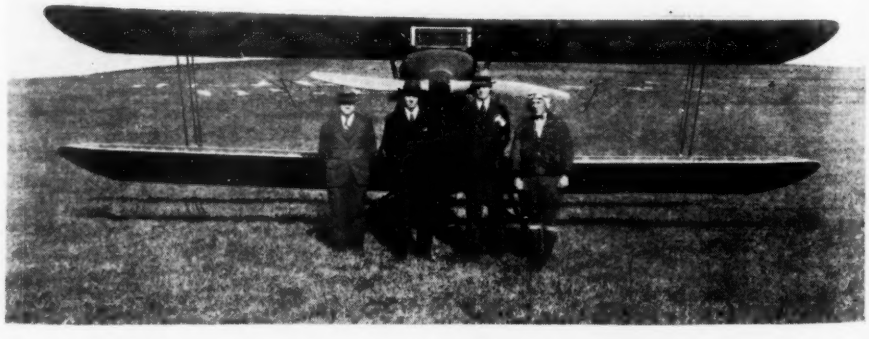
It is expected the book will be ready for distribution in February and one copy is to be sent gratis to every institute member. Arrangements are to be made to sell additional copies to individuals, companies and institutions both inside and outside the oil industry. Material in this book has been prepared by Yocum and Leonard Fanning of the institute staff. It contains statistics of crude production in this country and abroad, refining operations over the world and uses of petroleum; data on gasoline taxes, and history of the conservation issue.

Another new activity of this division of the institute is the preparation of a speakers' handbook. This book will contain 12 chapters on various activities and phases of the oil business, prepared so that anyone seeking material for a public talk on the oil business can find material for a general talk or a talk limited to any particular activity of the industry. The chapters in the book are entitled: history of oil, supply of petroleum and production methods, the petroleum industry today, waste and conservation, competition in the oil industry, investigations of the industry, gasoline and the public, gasoline taxes, production, transportation and storage, refining, petroleum research, uses of oil. In addition the book will contain five speeches made by oil men which have attracted general attention. One is by George H. Jones, chairman of the board, Standard Oil Co. of New Jersey.

To tie up the work of the division of public relations more closely with individual oil companies, Yocum is recommending that each company that takes an active part in the public relations work, should appoint one individual to be the contact man in this work. To this individual would go material issued by the division and matters of public interest issued by the company would be handled by him also.

Another activity of the division is the preparation of four-page folders designed to be given the public through members' gasoline stations. Provision can be made for printing the oil company's name on the folders. Four folders are being prepared, each dealing with gasoline. In one is explained price fluctuations, in another precautions in handling, and in a third gasoline taxes are discussed. These are put out to oil companies at a low cost.

Waverly Oil Works Uses Airplane



THAT American aviation will overwhelm the world with the speed of its development is the prediction of T. J. Hilliard, president, Waverly Oil Works Co., Pittsburgh, whose company is the first Pittsburgh industry to use aircraft for commercial purposes. The plane is shown in the accompanying picture. From left to right are D. W. Hovey, vice president; T. J. Hilliard, president; H. R. Hilliard, vice president and treasurer; and Lieut. C. V. Pickup, pilot.

The plane is used between the company's eastern distributing points. It is operated on regular grade of gasoline and motor oil.

Refining engineers, T. J. Hilliard says, should devote intensive thought toward producing motor fuels and lubricants which will permit safe speed and progress in the aeroplane industry.

Gulf's 11 Vapor Phase Cracking Patents Seem to Cover Many Features

By Paul Truesdell
N. P. N. STAFF WRITER

Article 2

CLEVELAND, Jan. 6

AN AROMATIC motor fuel, methods of making it by cracking in the vapor phase, various features of furnace design, combustion and heat transfer and means of treating the motor fuel to make it marketable without prohibitive losses, are covered in the patents on vapor phase cracking upon which the Gulf Refining Co. is building a cracking plant at its Bayonne, N. J. refinery, under the direction of Luis de Florez. Manufacture of metallic halides and a plate fractioning tower also are covered.

The discoveries and developments brought out as a result of the operation of the plant at Bayonne will be available to The Texas Co. as well as the Gulf. In the Nov. 30 issue of NATIONAL PETROLEUM NEWS, page 17, it was stated that The Texas Co. and the Gulf Refining Co. has pooled 23 patents, 12 owned by The Texas Co. and 11 by the Gulf, and were proceeding jointly to develop a cracking process.

The word "pool" has been objected to and the explanation has been made that what really happened is that the Guf Refining Co. took license to operate under the 12 patents of The Texas Co. and the latter took license to operate under the Gulf's 11 patents. At any rate, the result of the arrangement would seem to be that, as far as these two companies are concerned at least, there is unlikely to be any litigation over the development of vapor phase cracking.

The patents of the Gulf which figure in the arrangement were issued to Clive M. Alexander who for some years was employed by the Gulf in research work at Port Arthur, Tex. The Gulf's patents are listed herewith, and their claims are published, with the exception of one patent which is not just now obtainable. Next the claims of the patents of The Texas Co. which figure in the arrangement will be published.

The Gulf's patents are shown in the accompanying table:

The claims in the Alexander patents follow:

No. 1,230,975—Process of Making Aromatic Hydrocarbons.

Applied for Nov. 1915

1—The process of converting high boiling aromatic hydrocarbons into low boiling aromatic hydrocarbons which comprises passing the vapors of such high boiling hydrocarbons through a heated zone maintained at a cracking temperature at a rate so rapid as to give a substantial proportion of unchanged high boiling hydrocarbons of the original boiling point passing each zone.

2—The process of converting high boiling aromatic hydrocarbons into low boiling aromatic hydrocarbons which comprises passing vapors of solvent naphtha through a heated zone maintained at a cracking temperature of 600 to 1000 degrees Cent. and at a rate sufficiently rapid to give a condensate having about 70 per cent the volume of the original solvent naphtha and containing high boiling oils.

3—The process of making benzene and toluene from solvent naphtha which comprises passing the vapors of such solvent naphtha through a zone heated to 600 to 1000 degrees Cent. at a rate sufficiently rapid to give a large volume of liquid condensate containing high boiling oils, condensing the so treated vapors, separating benzene and toluene therefrom and recovering high boiling oils.

4—The process of making benzene and toluene from high boiling aromatic oils which comprises passing a mixture of vapors of once run high boiling oil and of fresh high boiling oil through a heated zone at a temperature of 600 to 1000 degrees Cent., recovering high boiling oils from such condensate and returning the recovered high boiling oils together with a fresh portion of high boiling oil to the heating zone for rerunning.

5—The process of converting high boiling aromatic hydrocarbons into low boiling aromatic hydrocarbons which comprises passing vapors of solvent naphtha through a heated zone at a temperature of about 800 degrees Cent. and at a rate sufficiently rapid to give a condensate having about 70 per cent the volume of the original solvent naphtha and containing high boiling oils.

6—The process of making benzene and toluene from solvent naphtha which comprises passing the vapors of such solvent naphtha through a zone heated to about 800 degrees Cent. at a rate sufficiently rapid to give a large volume of liquid condensate, condensing the so treated vapors, separating benzene and toluene therefrom, and recovering high boiling oils.

7—The process of making benzene and toluene from high boiling aromatic oils which comprises passing a mixture of once run high boiling oil and fresh high boiling oil through a heated zone at a temperature of about 800 degrees Cent., recovering high boiling oils from such condensate and returning the recovered high boiling oils together with a fresh portion of high boiling oil to the heating zone for rerunning.

8—In the process of making benzene and toluene from solvent naphtha, the process which comprises producing vapors from a mixture of solvent naphtha and once-treated oil, passing such vapors through a heated zone maintained at a cracking temperature at a rate sufficiently rapid to insure a substantial portion of such vapors passing through unchanged, condensing the so treated vapors, separating low boiling constituents from the condensate, recovering high boiling oils therefrom and returning the recovered high boiling

How Much Ground is Covered?

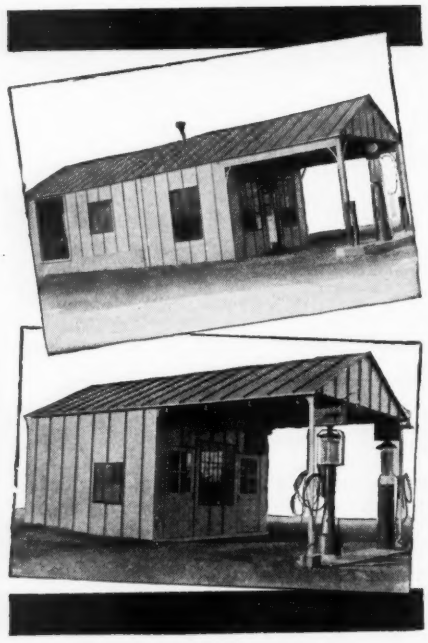
Inasmuch as the arrangement between the Gulf Refining Co. and The Texas Co. represents the development by two of the biggest and most progressive companies in the business of vapor phase cracking which is exceedingly important just now, it seems worth while to publish the claims of the patents which are included in the arrangement.

Next will be published the claims in the patents of The Texas Co. which figure in the arrangement. The claims in the two groups of patents will give the technologists interested a clear idea of the ground the two companies claim to cover in the vapor phase field, without going to the trouble of obtaining each individual patent.

GULF'S VAPOR PHASE PATENTS

Patent Number	Patentee	Date App. For	Date Issued
1,230,975	Clive M. Alexander	Nov. 10, 1915	June 26, 1917
1,366,626	same	Oct. 9, 1919	Jan. 25, 1921
1,387,677	same	March 14, 1916	Aug. 16, 1921
1,404,725	same	March 8, 1916	Jan. 31, 1922
1,402,733	same	Oct. 1, 1917	Jan. 10, 1922
1,407,619	same	Nov. 30, 1917	Feb. 21, 1922
1,411,255	same	March 14, 1916	April 4, 1922
1,561,044	same	Feb. 20, 1925	Nov. 10, 1925
1,381,098	Same and George H. Taber, Jr.	March 14, 1916	June 14, 1921
1,573,532	same	Oct. 9, 1919	Feb. 16, 1926
*1,585,224	.....	.....	.....

*Not immediately obtainable.



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oils for admixture with fresh solvent naphtha to produce the described mixture.

No. 1,366,626—Process of Making Metallic Halids.

Applied for Oct. 9, 1919

1—The process of making metallic halids, comprising injecting a pulverized metal-bearing material, fuel, a gas to support combustion, and a halogen, into a combustion and reaction chamber.

2—The process of making metallic halids, comprising pulverizing a metal-bearing material and injecting it into a combustion and reaction chamber where it contacts with fuel with a gas to support combustion, and with a halogen.

3—The process of making metallic halids, comprising pulverizing a metal-bearing material and blowing it into a hot combustion and reaction chamber simultaneously with the injection into said chamber of fuel, air and a halogen.

4—The process of making metallic halids, comprising injecting a finely divided metal-bearing material and fuel into a combustion and reaction chamber by a blast of a combustion-supporting gas, and also injecting a halogen into said chamber.

5—The process of making metallic halids, comprising injecting a finely divided metal-bearing material and fuel into a combustion and reaction chamber where it contacts with a gaseous halogen, and also injecting a combustion supporting gas into said chamber.

6—The process of making metallic halids, comprising injecting a finely divided metal-bearing material and fuel into a reaction chamber by a blast of a mixture of a combustion supporting gas and a gaseous halogen.

7—The process of making metallic halids, comprising mixing a pulverized metal-bearing material with pulverized coal and injecting the mixture into a reaction chamber by means of a blast of air and a gaseous halogen.

8—The process of making aluminum chlorid, comprising injecting a finely divided aluminum-bearing material, fuel, air and chlorin into a combustion and reaction chamber.

9—The process of making aluminum chlorid, comprising injecting finely divided aluminum-bearing material into a combustion and reaction chamber by means of a blast of air, and also injecting fuel and chlorin into said chamber.

10—The process of making aluminum chlorid, comprising injecting finely divided aluminum-bearing material and fuel and chlorin, into a combustion and reaction chamber by means of a blast of air.

11—The process of making metallic halids, comprising injecting pulverized coal and bauxite into a combustion and reaction chamber, by means of a blast of air and gaseous halogen.

12—The process of making metallic halids, comprising injecting a finely-divided metal-bearing material, a finely-divided solid fuel, a gaseous fuel, a gas to support combustion, and a halogen, into a combustion and reaction chamber.

13—The process of making metallic halids, comprising injecting a finely-divided metal-bearing material, finely-divided carbonaceous fuel, producer gas, air, and a halogen, into a combustion and reaction chamber.

14—The process of making metallic halids, comprising injecting fuel and a gas to support combustion into a chamber to preheat it, then injecting finely-divided metal-bearing material and a halogen, into said chamber.

15—The process of making metallic halids, comprising injecting fuel and a gas to support combustion into a chamber to preheat it, then injecting finely-divided metal-bearing material, fuel, a gas to support combustion and a halogen, into said chamber.

No. 1,387,677—Process of Heating Oil Retorts and Apparatus Therefor.

Applied for Mar. 14, 1910

1—The method of heating oil converting devices which comprises leading fire gases in contact with a heat conductive partition spaced away somewhat from such oil converting device but in heat radiating relationship throughout substantially its entire length and thereafter leading such fire gases between such partition and such device.

2—In the heating of tubular oil cracking retorts the process which comprises leading fire gases around a tubular heat conductive sleeve surrounding such retort throughout sub stantially its entire length and then passing the fire gases between such sleeve and such retort.

3—In apparatus for heating oil retorts the combination of an oil cracking retort with a partition of heat conductive material spaced away therefrom but in heat radiating relationship thereto throughout substantially its entire length with means for introducing fire gases first in outer contact with said partition and thereafter through the space between such partition and such retort.

4—In an oil converting device a tubular retort flame chamber surrounding the same, a tubular sleeve in said flame chamber surrounding said retort and in open communication with said flame chamber at one end, means for introducing fire gases at the other end of said flame chamber and means for removing waste gases from the end of the sleeve opposite the end in open communication with said flame chamber.

5—In an oil converting device, a flame chamber, a preheating chamber, a tubular retort in said flame chamber, a tubular sleeve surrounding said retort and spaced away therefrom, said sleeve being in open communication with the fire chamber at one end, means for introducing fire gases into the flame chamber at the opposite end, means for removing waste gases from the sleeve at its opposite end and introducing the same into the said preheating chamber, an oil preheater located in said preliminary heating chamber and in communication with said tubular retort.

6—In an oil converting apparatus a furnace chamber divided into a flame chamber and a preheating chamber by a suitable partition, an oil converting retort in the flame chamber, a sleeve surrounding but spaced away from said retort located in said flame chamber and extending to a point somewhat short of said chamber, means for introducing fire gases in said flame chamber at its opposite end, baffles extending between the sleeve and the flame chamber to cause fire gases to take a tortuous path therearound, a preheating chamber in open communication with the opposite end of said sleeve, and an oil vaporizer extending through said preheating chamber and in communication with the oil converting retort.

7—An oil converting apparatus adapted for cracking oil at high temperatures and pressures and comprising a vertical retort having a tar pot at its bottom, a flame chamber surrounding said retort, a sleeve within said flame chamber also surrounding said retort and extending to a point short of the top of said flame chamber, a vertical preheating chamber receiving fire gases from the base of said sleeve, an oil vaporizer extending through said preheating chamber and provided with a tar pot at its bottom, means for introducing oil into such preheater and means for removing vapors from the top of said retort.

8—A heating chamber provided with a retort to be heated, a wall of heat conductive material surrounding said retort throughout substantially its entire length but open at the top to permit entrance of heated gases, means for heating said wall throughout its length by direct impingement of gases thereon, this permitting the said conductive wall to radiate heat to the surrounded retort, the said wall being provided with an opening near the bottom to conduct away the gases which have been in contact with the said retort and the furnace being arranged at the top to direct the gases which have impinged directly with the outside of said wall into contact with the said retort and between it and the surrounding wall.

No. 1,404,725—Process of Making Low Boiling Hydrocarbons.

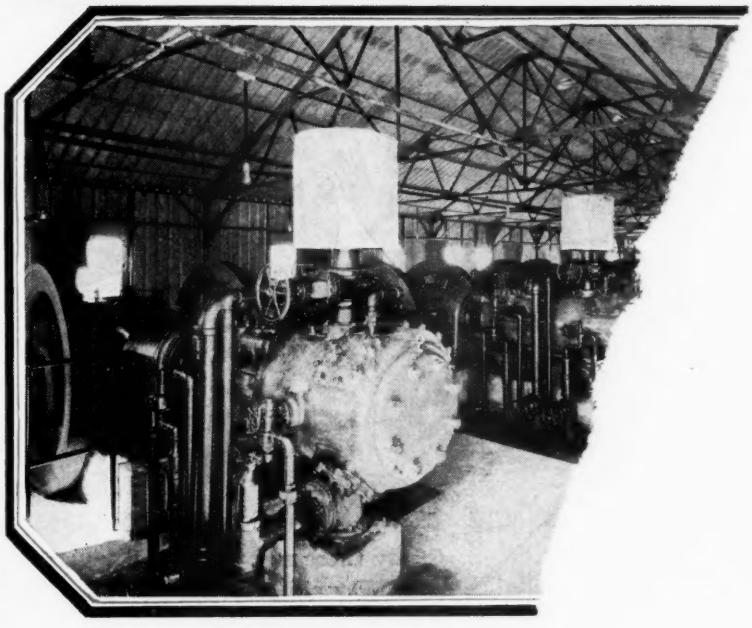
Applied for March 8, 1916

1—The process of converting high boiling hydrocarbons into low boiling hydrocarbons, which comprises passing vapors of such high boiling hydrocarbons through a heated zone of 500 degrees Cent. or more together with a portion of reheated and broken down returned hydrocarbon gases.

2—The process of converting high boiling petroleum hydrocarbons into low boiling aromatic hydrocarbons which comprises passing the vapors of high boiling petroleum hydrocarbons through a heated zone maintained at a temperature of 500 degrees Cent. or more, together with a copious flow of gases coming from such heated zone and returned thereto after escape therefrom and after heating sufficiently to produce breaking down to a substantial extent.

3—The process of converting high boiling oils into low boiling oils which comprises transmitting the vapors of such high boiling oils through a heated cracking zone at a temperature of 500 degrees Cent. or more, together with a greater volume of returned gases such returned gases coming from such operation.

4—The operation of converting high boiling petroleum hydrocarbons into low boiling aro-



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matic hydrocarbons which comprises transmitting the vapors of such high boiling hydrocarbons together with a larger amount of returned gases through a cracking zone at a temperature of 700 degrees Cent. or more, the returned gases being gases originating in such cracking zone.

5—The process of converting high boiling petroleum hydrocarbons into low boiling aromatic hydrocarbons, which comprises passing the vapors of high boiling petroleum hydrocarbons through a heated zone maintained at a temperature of 500 degrees Cent. or more together with a copious flow of gases coming from such heated zone and returned thereto after escape therefrom, such gases being reheated prior to reintroduction to the cracking zone and being greater in volume than oil vapors mixed therewith.

No. 1,402,733—Method of Purifying Oils.

Applied for Oct. 1, 1917

1—In the purification of oils, the process which comprises transmitting an oil to be purified together with a small proportion of sulfuric acid as a continuously flowing stream through a temperature controlled conduit under mechanical agitation, the amount of acid being merely sufficient to oxidize unsaturated bodies with improvement of color without any substantial removal of hydrocarbons or polymerization thereof.

2—In the decolorization of cracked gasoline, the process which comprises conveying such a cracked gasoline together with a small amount of sulfuric acid as a continuously flowing stream through a temperature controlled conduit under mechanical agitation.

3—In the purification and decolorization of cracked gasoline, the process which comprises conveying such cracked gasoline together with a small amount of sulfuric acid as a continuously flowing stream through a temperature controlled conduit under mechanical agitation, contacting the gasoline with alkali and steam distilling.

4—In the purification and decolorization of cracked gasoline, the process which comprises conveying such cracked gasoline together with a small amount of sulfuric acid as a continuously flowing stream through a temperature controlled conduit under mechanical agitation, contacting said gasoline with caustic soda solution in sufficient amount to remove remaining acid and then steam distilling the neutralized gasoline.

5—In the purification and decolorization of cracked gasoline, the process which comprises conveying such gasoline together with a little sulfuric acid as a continuously flowing stream through a temperature controlled conduit under mechanical agitation thereafter passing the gasoline through a temperature controlled conduit in a similar manner in contact with a caustic soda solution and steam distilling the gasoline so treated.

6—In the purification of petroleum oils containing unsaturated bodies, the process which comprises contacting with such petroleum oils, as a flowing stream through a temperature controlled conduit and under mechanical agitation not substantially more than 5 pounds sulfuric acid to the barrel of oil, to improve the color without any substantial loss of the hydrocarbons or polymerization thereof.

7—In the purification of oils, the process which comprises transmitting an oil to be purified together with a small proportion of sulfuric acid and another oxidizing agent as a continuously flowing stream through a temperature controlled conduit under mechanical agitation.

8—In the purification of oils, the process which comprised transmitting an oil to be purified together with a small quantity of sulfuric acid as a continuously flowing stream through a horizontal conduit partially filled with the mixture and there submitting it to vigorous agitation.

9—The process of treating cracked gasoline which comprises feeding the cracked gasoline together with a small proportion of sulfuric acid into and through a horizontal tubular closed conduit and there vigorously agitating the gasoline and acid together, such conduit being maintained only partially filled with the mixture of gasoline and acid flowing therethrough.

No. 1,407,619—Manufacture of Motor Fuel.

Applied for Nov. 30, 1917

1—In the manufacture of low boiling oils from higher boiling oils, the process which comprises vaporizing such a higher boiling oil, passing the vapors through a hot tubular cracking zone at such a rate that only a portion of the vapors are cracked therein, passing the emerging vapors through an air cooled condenser and in such condenser scrubbing with high boiling oil, returning the mixture of scrubbing oil and condensed high boiling oil to serve for the production of vapors for the cracking zone, and condensing the residual vapors passing the air cooled condenser to give a condensate of the desired low boiling oils.

2—The process of converting high boiling petroleum hydrocarbons into low boiling petroleum hydrocarbons which comprises passing the vapors of high boiling petroleum hydrocarbon oils through a heated zone at a temperature of about 500 degrees Cent. and at a rate sufficiently rapid to give a condensate having at least 80 per cent volume of the original oil and containing a substantial proportion of oils as high boiling as those so passed.

3—In the process of making low boiling petroleum hydrocarbons, such as gasoline, benzine, ligroin and the like from high boiling petroleum hydrocarbons such as crude petroleum, petroleum distillates, and petroleum residuums, the process which comprises passing the vapors of such high boiling oils through a heated zone at a temperature of about 500 degrees Cent. at about atmospheric pressure and at a rate sufficiently rapid to ensure a substantial portion of such vapors passing through unchanged, fractionally condensing the so treated vapors in such manner that the high boiling and unchanged hydrocarbon products are separated from the desired low boiling hydrocarbon product and continuously returning the high boiling and unchanged hydrocarbon products to be rerun repeatedly through the same cycle of treatment.

No. 1,411,255—A Process of Making Low Boiling Hydrocarbons.

Applied for Mar. 14, 1916

1—The process of producing low boiling oils which comprises passing permanent gases from a petroleum source through a heated zone at a temperature between 500 and 1000 degrees Cent. and under heavy pressure, cooling the effluent gases and condensing liquefiable hydrocarbons formed.

2—The process of producing volatile low boiling oils which comprises heating gaseous hydrocarbons from a petroleum source having boiling points lower than the boiling points of the oil to be produced to a temperature between 500 and 1000 degrees Cent. under heavy pressure, cooling the gases and vapors resulting from such heating and condensing the volatile low boiling liquefiable hydrocarbons produced from such low boiling hydrocarbons.

3—The process of producing volatile low boiling oils which comprises heating hydrocarbon gases under pressure in the presence of returned gases, cooling the mixture of gases and vapors formed, separating liquefiable hydrocarbons from such mixture and returning a portion of the permanent gases for admixture with fresh hydrocarbon gas.

No. 1,561,044—Baffle Tower.

Applied for Feb. 20, 1925

1—An improved baffle for promoting gas and liquid contact, comprising a series of sheets or plates supported in spaced substantially parallel relation with a plurality of projections trapezoidal in configuration arranged in spaces between the sheets or plates with the shorter parallel trapezoidal faces of the projections disposed toward one face of the baffle, said projections being formed of flanges integral with the sheets or plates.

2—An improved baffle for promoting gas and liquid contact, comprising a series of sheets or plates supported in spaced substantially parallel relation with a plurality of projections trapezoidal in configuration arranged in the spaces between the sheets or plates with the shorter parallel trapezoidal faces of the projections disposed toward one face of the baffle, said projections being formed of flanges integral with the sheets or plates, the successive sheets or plates of the baffle being spaced by the projections thereon.

3—An improved baffle for promoting gas and liquid contact comprising a series of sheets or plates supported in spaced substantially parallel relation with a plurality of projections trapezoidal in configuration arranged in the spaces between the sheets or plates with the shorter trapezoidal faces of the projections disposed toward one face of the baffle, the projections being arranged in rows generally normal to the same face of the baffle successive rows on each sheet or plate being staggered, said projections being formed of flanges integral with the sheets or plates.

4—An improved baffle for promoting gas and liquid contact comprising a series of

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sheets or plates supported in spaced substantially parallel relation with a plurality of projections trapezoidal in configuration arranged in the spaces between the sheets or plates with the shorter parallel trapezoidal faces of the projections disposed toward one face of the baffle, said projections being formed of flanges integral with the sheets or plates, the flanges forming the said shorter faces of the projections and the adjacent inclined flanges presenting with the sheets or plates closed faces toward the same face of the baffle mentioned.

5—An improved baffle for promoting gas and liquid contact, comprising a series of sheets or plates supported in spaced substantially parallel relation with a plurality of projections trapezoidal in configuration arranged in the spaces between the sheets or plates with the shorter parallel trapezoidal faces of the projections disposed toward one face of the baffle, said projections being formed of flanges integral with the sheets or plates and supplementary deflecting flanges arranged behind said projections from the said baffle face.

6—An improved baffle element for promoting gas and liquid contact, comprising a sheet or plate having a plurality of projections trapezoidal in configuration arranged thereon, the shorter parallel trapezoidal faces of the projections being disposed toward one edge of the sheet or plate, said projections being formed of flanges integral with the sheet or plate.

7—An improved baffle element for promoting gas and liquid contact comprising a sheet or plate having a plurality of projections trapezoidal in configuration arranged thereon, the shorter parallel trapezoidal faces of the projections being disposed toward one edge of the sheet or plate, said projections being formed of flanges integral with the sheet or plate and arranged in staggered rows generally normal to the same edge of the sheet or plate.

8—An improved baffle element for promoting gas and liquid contact comprising a sheet or plate having a plurality of projections trapezoidal in configuration arranged thereon the shorter parallel trapezoidal faces of the projections being disposed toward one edge of the sheet or plate said projections being formed of flanges integral with the sheet or plate the flanges forming the said shorter faces and the adjacent inclined flanges presenting with the sheet or plate closed faces toward the same edge of the sheet or plate.

9—An improved baffle element for promoting gas and liquid contact comprising a sheet or plate having a plurality of projections trapezoidal in configuration arranged thereon the shorter parallel trapezoidal faces of the projections being disposed toward one edge of the sheet or plate, said projections being formed of flanges integral with the sheet or plate and supplementary deflecting flanges arranged behind said projections from the same edge of the sheet or plate.

No. 1,381,098—Process of Catalyzing Oil and Apparatus Therefor.

Applied for Mar. 14, 1926

1—The process of converting high boiling hydrocarbon oils into lower boiling hydrocarbon oils which comprises applying heat to and heating a mixture of vapors of a reactive metal halid and vapors of such high boiling oil.

2—The process of converting high boiling hydrocarbon oils into lower boiling hydrocarbon oils which comprises applying heat to and heating a mixture of vapors of a reactive metal chlorid and vapors of such high boiling oil.

3—The process of converting high boiling hydrocarbon oils into lower boiling hydrocarbon oils which comprises applying heat to and heating a mixture of aluminum halid vapors with vapors of such high boiling oil.

4—The process of converting high boiling hydrocarbon oils into lower boiling hydrocarbon oils which comprises applying heat to and heating a mixture of aluminum chlorid vapors with vapors of such high boiling oil.

5—The process of converting high boiling hydrocarbon oils into lower boiling hydrocarbon oils which comprises producing a mixture of vapors of a reactive metal halid and vapors of oil and transmitting such mixture through a heated zone at a temperature sufficient to cause a reaction therebetween.

6—The process of converting high boiling hydrocarbon oils into lower boiling hydrocarbon oils which comprises applying heat to and heating a mixture of vapors of a reactive metal halid and oil vapors in a suitable reaction chamber, withdrawing mixed vapors from the top of such chamber, separating oil vapors from the metallic halid and returning the separated metallic halid to such reaction chamber.

7—The process of converting high boiling hydrocarbon oils into lower boiling hydrocarbon oils which comprises applying heat to and heating a mixture of vapors of aluminum chlorid and oil vapors in a suitable reaction chamber, continuously removing mixed vapors from the top of such chamber and separating aluminum chlorid therefrom, and returning such aluminum chlorid in the vapor form to such reaction chamber.

8—The process of converting high boiling hydrocarbon oils into lower boiling hydrocarbon oils which comprises applying heat to and heating a mixture of vapors of a reactive metal halid and oil vapors in a suitable reaction chamber maintained at a high temperature and having an upward extension maintained at a less temperature, and continuously removing oil vapors from such extension while returning metallic halid collected therein, reheating such halid to revaporize it and returning the vapors to the reaction chamber.

9—The process of converting high boiling hydrocarbon oils into lower boiling hydrocarbon oils which comprises introducing oil vapors and vapors of aluminum chlorid into the base of a heated vertical retort, withdrawing mingled vapor of oil and aluminum chlorid from the top of such retort and cooling the same to separate the aluminum chlorid, reheating the separated aluminum chlorid and returning the same to the base of such a retort.

10—The process of saturating and improving oils which comprises applying heat to and heating a mixture of vapors of a reactive metallic chlorid and vapors of a petroleum oil until a substantially saturated condensable product is obtained.

11—The process of saturating and improving oils which comprises applying heat to and heating a mixture of vapors of aluminum chlorid and vapors of a petroleum oil until a substantially saturated condensable product is obtained.

12—In an apparatus for producing high quality low boiling oils, a reaction chamber, means for feeding vapors of hydrocarbon oils thereto, means for feeding vapors of a metallic halid thereto, means for removing mixed halid and oil vapors from said reaction chamber, means for separating the halid vapors from

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the oil vapors and means for returning the so separated halid.

13—In an apparatus for producing high quality low boiling oils, a fire chamber, a retort extending therethrough, means for supplying oil vapors to one end of said retort, means for supplying vapors of a metallic halid to the same end, means for removing mixed vapors of oil and halid from the other end of said retort, means for fractionally condensing said mixture of vapors to condense such metallic halid, and reheating and revaporizing means for returning such separated halid for reintroduction into the retort with the oil vapors.

14—In an apparatus for producing high quality low boiling oils, a fire chamber, a vertical retort therein, a heating chamber, an oil vaporizing device and a catalyst reheating device in said heating chamber, a fractional condenser in communication with the top of said retort, a connection between the vaporizer and retort, means for removing oil vapors from the fractional condenser and means for introducing oil into the oil vaporizing device.

15—In an apparatus for producing high quality low boiling oils, a fire chamber, a vertical retort therein, a heating chamber, an oil vaporizing device and a catalyst reheating device in said heating chamber, a fractional condenser in communication with the top of said retort, a connection between the vaporizer and retort, means for removing oil vapors from the fractional condenser, means for introducing gases thereinto.

16—In an apparatus for producing high quality low boiling oils, a furnace chamber divided into a fire chamber and a preheating chamber by a vertical wall, a vertical reaction chamber in said fire chamber having a vapor exit at or near its top, a vertical catalyst reheating chamber in the preheating chamber and in communication with said reaction chamber near its base, an oil vaporizing retort also located in said preheating chamber and also in communication with said reaction chamber near its base, a fractional condensing device receiving vapors from the top of said reaction chamber and means for returning catalyst from said fractional condensing device to said catalyst reheating chamber.

No. 1,573,532—Process and Apparatus for Decomposing Oils.

Applied for Oct. 9, 1919

1—A process of decomposing oil, comprising injecting a lighter oil in an atomized liquid form below the surface of a bath of heavy oil, heated to a temperature sufficient to decompose the lighter oil, at such a depth that the lighter oil will be cracked before vaporization, collecting the oil formed as the result of the cracking, leading said heavy oil from the still, removing the carbon therefrom and returning it to the still.

3—A process of decomposing oil, comprising injecting a lighter oil in an atomized liquid form below the surface of a bath of heavy oil, heated to a temperature suffcient to decompose the lighter oil, at such a depth that the lighter oil will be cracked before vaporization in a still and circulating the said heavy oil from the still to a carbon-removing device and then back to the still.

3—A process of decomposing oil comprising injecting oil to be cracked into a bath of highly heated heavy oil in a still and below the liquid level of said heavy oil, at such a depth that the lighter oil will be cracked before vaporization whereby the heavy oil is agitated, leading the said heavy oil to a carbon-removing device, and collecting the oil formed as the result of the cracking.

4—A process of decomposing oil, comprising injecting oil to be cracked into a bath of highly heated heavy oil in a still and below the liquid level of said heavy oil, at such a depth that the lighter oil will be cracked before vaporization whereby the heavy oil is agitated, leading the said heavy oil to a carbon-removal chamber, and thence back into the still, and collecting the lighter oil formed as the result of the cracking.

5—A process of decomposing oil, comprising heating a heavy oil in a still to a temperature sufficient to decompose a lighter oil but insufficient to decompose said heavy oil, injecting a lighter oil into said heavy oil below the liquid level of said heavy oil at such a depth that the lighter oil will be cracked before vaporization so as to agitate the heavy oil and keep the free carbon therein in suspension, leading the heavy oil from said still, removing the carbon therefrom, and returning it to the still.

6—A process of decomposing oil, comprising heating a heavy oil in a still to a temperature sufficient to decompose a lighter oil but insufficient to decompose said heavy oil, injecting a lighter oil into said heavy oil near the bottom of the still and at such a depth that cracking will result before vaporization so as to agitate the heavy oil and keep the free carbon therein in suspension, leading the heavy oil from said still, removing the carbon therefrom, and returning it to the still.

7—An apparatus for decomposing oil, comprising a still containing heavy oil, means to heat said still, nozzle means immersed in the heavy oil for injecting a lighter oil in liquid form into said heavy oil, a carbon-removing chamber connected to said still so that the heavy oil level is substantially the same in said carbon-removing chamber and said still, and means to circulate the heavy oil through the said chamber and back to the still.

8—A process of cracking oil, comprising heating a bath of residuum oil to a temperature sufficient to crack a lighter oil, but not sufficient to cause a cracking of the residuum oil, injecting a lighter oil in an atomized, liquid state into the residuum oil below the liquid level thereof, whereby it is cracked while in the liquid state by the high temperature of residuum oil, such injection of the lighter oil serving to agitate the residuum oil to prevent the deposition of carbon, and collecting the oils formed as the result of the cracking.

9—A process of cracking oil, comprising heating a bath of heavy oil to a temperature sufficient to cause the cracking of a lighter oil, but not sufficient to cause the cracking of the heavy oil, injecting a lighter oil in an atomized liquid state below the surface of the heavy oil whereby the light oil is cracked while in the liquid state, and collecting the lighter oils formed as the result of such cracking.

10—A process of cracking oil, comprising heating a bath of heavy oil to a temperature sufficient to cause the cracking of a lighter oil, but not sufficient to cause the cracking of the heavy oil, injecting a lighter oil in an atomized liquid state below the surface of the heavy oil, whereby the light oil is cracked while in the liquid state, collecting the lighter oils formed as the result of such cracking, and circulating the heavy oil through a carbon removing device and back into the still.

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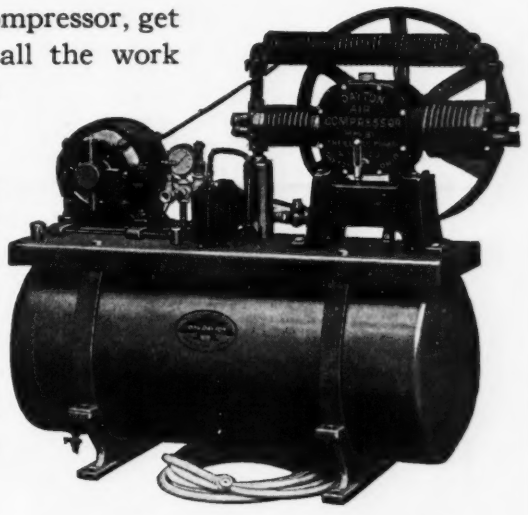

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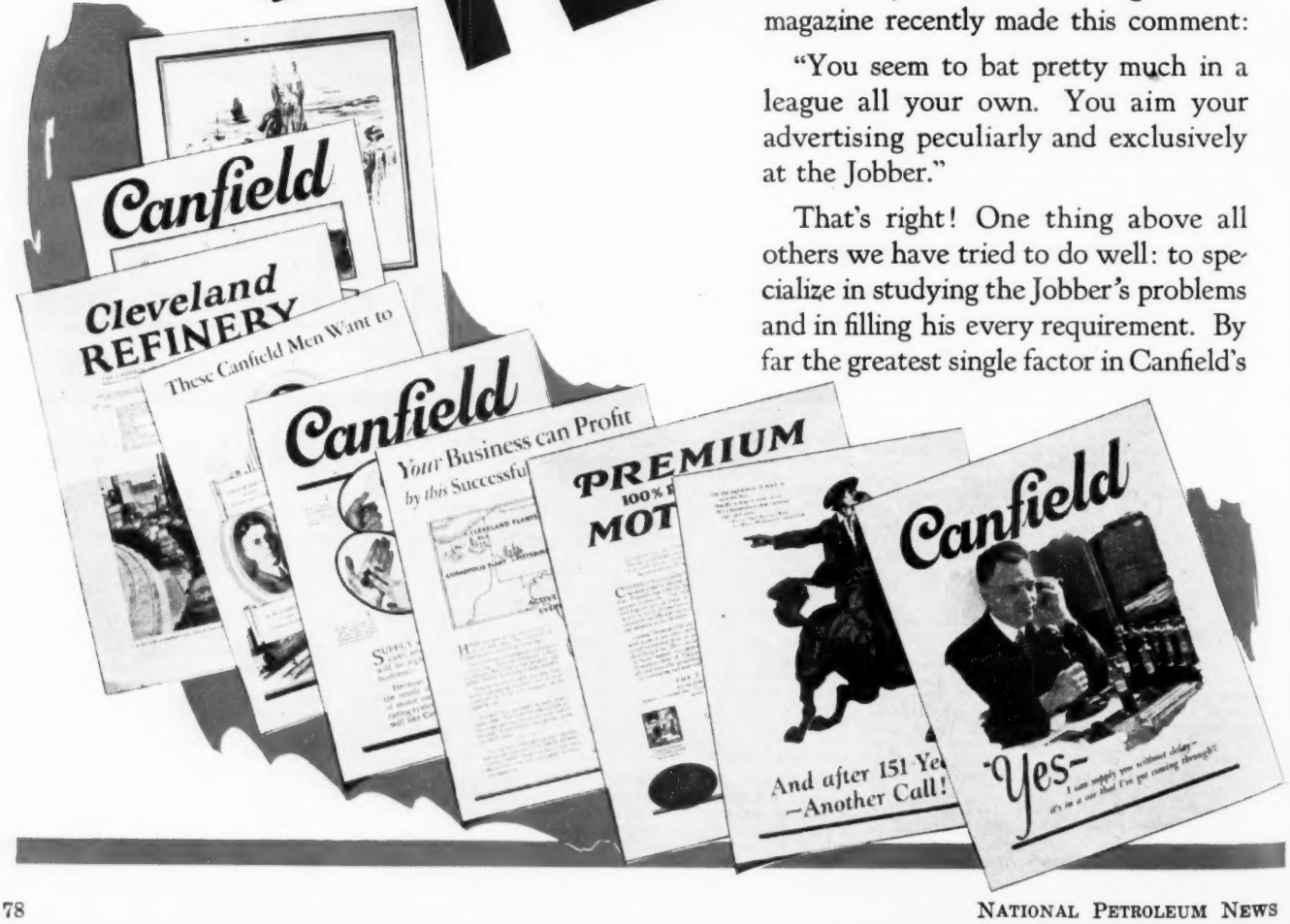

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National Petroleum News

By Paul Wagner

MEMBERS of the American Institute of Mining & Metallurgical Engineers are engaged in voting on officers and directors for 1928 for both the main organization and the petroleum division. George Otis Smith of the United States Geological Survey has been proposed to head the Institute, succeeding the incumbent, E. L. De Golyer of the Amerada Petroleum Corp.

A. W. Ambrose, production manager of the Empire Companies, Bartlesville, is proposed as chairman of the petroleum division, succeeding John M. Lovejoy, vice president and general manager of the Amerada at Tulsa. C. R. McCollum, Los Angeles, who recently resigned from the Union Oil Co. of California to identify himself with the Prairie Oil & Gas Co's. new Pacific Coast organization, is the proposed associate chairman.

Vice chairmen being voted on include E. O. Bennett, chief production engineer, Marland Oil Co. of Texas, Fort Worth, for the production engineering group; Joseph Jensen, Associated Oil Co., San Francisco, for the production group; Arthur Knapp, United Gas Improvements Co., Philadelphia, for the economics group; Lester C. Uren, University of California, Berkely, and regular contributor to NATIONAL PETROLEUM NEWS, for the research engineering group; H. W. Camp, Empire Refineries, Inc., Tulsa, for the refinery engineering group.

* * *

HORACE FITZPATRICK of the Prairie Oil & Gas Co., who long has occupied the position of assistant to Dana Kelsey, vice president and general manager, is now a member of the board of directors. Mr. Fitzpatrick is a son of W. S. Fitzpatrick, chairman of the board. He has been identified with the Prairie's Mid-Continent operations a number of years since transfer from the Rocky Mountain territory, where much of his early operating experience was gained.

* * *

GEORGE W. DAWLEY, who has operated in various parts of north Texas since Ranger and Burkburnett days, announces the assembling of a block of acreage about four miles west of Magnolia, Ark., where he proposes starting a test well before Feb. 15, next. Only minor details, he says, remain to be worked out.

DR. VAN DER GRACHT

DR. W. A. J. M. van WATERSCHOOT van der GRACHT, vice president of Marland Oil Co. of Delaware and member of its board of directors, knows so much about world geology that one of his friends recently described him as taking up oceanography to give himself a new outlet for research.

The doctor is one of the American Petroleum Institute group carrying on research through the sampling of sediments on the ocean floor to determine conditions affecting the future manufacture of petroleum supplies by nature. Dr. Parker Trask of Oakland, Cal., is in charge of the detail of the work.

A friend recently remarked to Dr. van der Gracht to the effect that "your work at one time or another has taken you pretty much over the world, hasn't it."

The doctor replied modestly:

"Well, I've never been in Australia or Japan."

* * *

P. J. McALPINE is the drilling contractor on a test well being put down near Tupelo, Lee county, Miss., by J. P. Evans and associates of Shreveport. The test is already down below 2100 feet.

* * *

RALPH B. ROARK is now general superintendent of the Roxana Petroleum Corp., succeeding George S. Rollin in the Kansas-Oklahoma-Texas Panhandle territory. Mr. Rollin was transferred to St. Louis when recently made a vice president on the general executive staff.

* * *

GILBERT WOOD is now in charge of the Fort Worth land department offices of Independent Oil & Gas Co., succeeding C. F. Kelsey, who recently resigned as vice president to re-engage in individual operations. Mr. Wood was formerly in charge of the Independent's land affairs in Kansas.

* * *

STANDARD OIL CO. of California has designated H. B. Davis as superintendent of what it calls its central service unit for the producing department in the Los Angeles Basin region. The central service unit at the Murphy-Coyote property in the Coyote Hills consists of a grouping of facilities previously maintained by individual producing divisions. The object sought is efficiency of operation. A similar unit plan has been followed for a long time in the San Joaquin valley region of central California.

* * *

FRANK A. HERALD, now president of the Phoenix Oil & Transport Co., Tulsa, continues to maintain offices in the Cosden building since dissolving the partnership previously existing with his brother, John M. Herald, under the name of Herald Brothers. John M. Herald continues in consulting geological practice at the Cosden building address.

* * *

RAE PREECE of San Antonio is now operating on his account since resigning from the organization of the Douglas Oil Co.

* * *

NEW members of the Purchasing Agents Association of Houston include J. W. Kaough, Emsco Derrick & Equipment Co. of Texas; H. J. Glauser, The Staytite Co.; J. N. Barrymore, Dixie Gas & Fuel Co.; H. J. Hefner, Vacuum Oil Co., all of Houston; W. F. Wilson, Sun Oil Co.; Raoul Mueller, W. L. Wilson Hardware Co.; E. W. Gildart, Norvell-Wilder Hardware Co.; and T. F. Nessom, Boykin Machine & Supply Co., all of Beaumont.

* * *

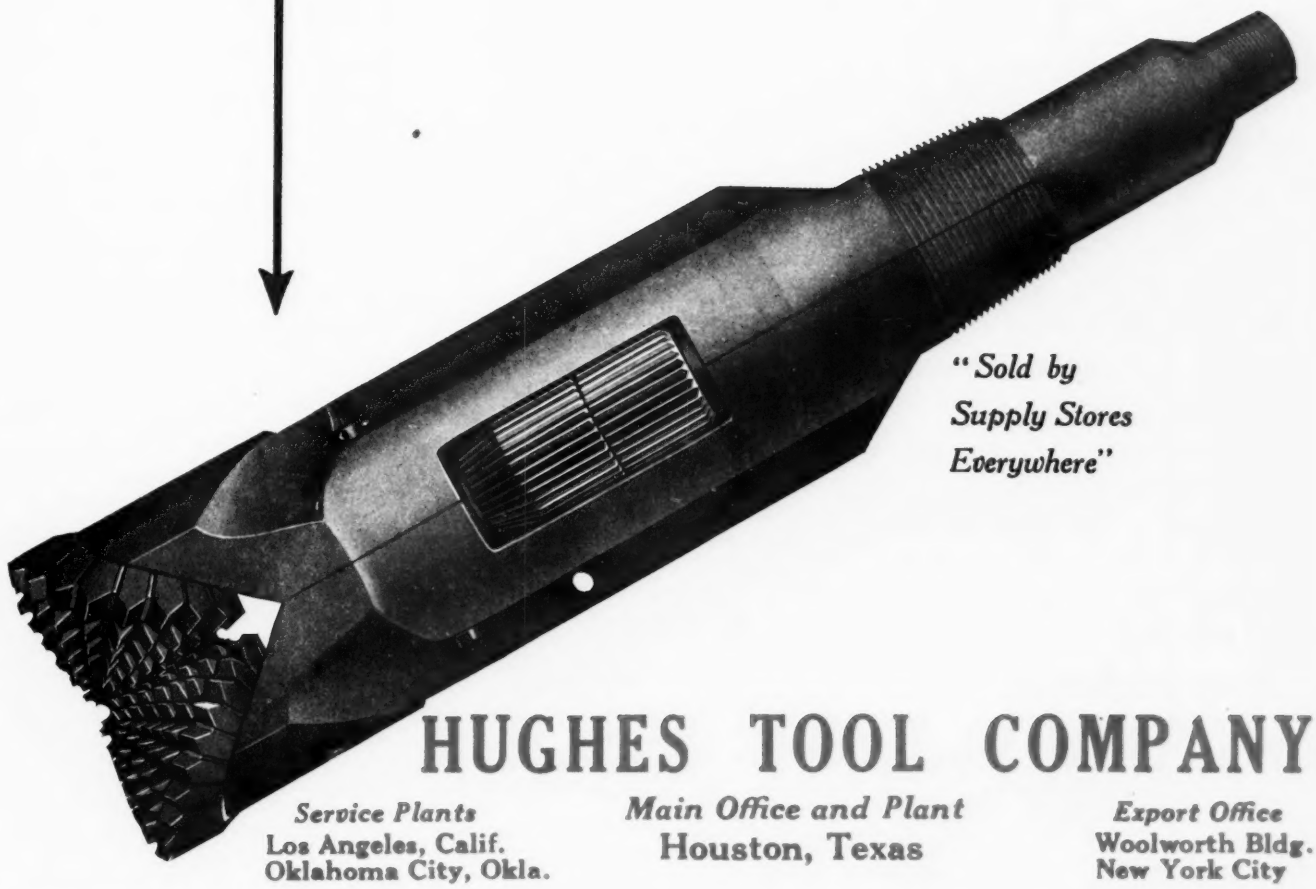
L. A. TAFT, of The Texas Co., whose inclinations tend to the wide open spaces at this time of the year, journeyed to the Swartswood Lake region with a party of friends in search of wild game. Mr. Taft on his return explained that the shooting was good and the game plentiful but the number in the party cut down his share of the trophies so it was impossible for him to furnish the chef a supply sufficient for a "game" dinner for the boys.

Serving the Industry with SPEED

HUGHES SELF-CLEANING CONES

Speed in getting the hole down is essential to Drilling Economy.

Since the inception of Hughes "Self-Cleaning" Cones, Operators and Contractors in the Rotary fields throughout the world have been able to cut their drilling costs per well a worthwhile extent.



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The Vilter Mfg. Co.
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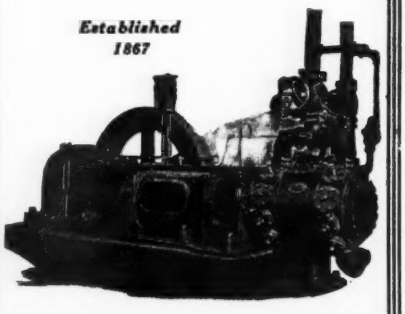
Established 1867



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Refrigerating Machinery
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Plant
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Operators usually can arrange a Tret-O-litE plant, using equipment already on the lease. No heavy initial investment—no expensive equipment to stand idle when need for large treating capacity has passed.

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Tret-O-lite

How Business Men Can Find Time To Read

By John Allen Murphy

National Petroleum News

FOR the last 20 years I've made a good portion of my income by writing for business papers. This work, each year, brings me into intimate contact with thousands of business men—retailers, wholesalers, manufacturers and bankers.

Almost without exception these men subscribe to four or five trade publications. The average business man reads house magazines covering his field, and perhaps a couple of technical or class "industrial" papers. He appreciates the value of keeping in touch with the stream of progress in his industry. He wants to know what others in his line of work are doing. He wants to keep informed of the new discoveries, the new styles, the new vogues and the new methods that may affect his business. He is always anxious to learn how others have solved the problems that long have been baffling him.

It is the province of the trade paper to supply information on these subjects, and on any other that may be interesting or helpful to its readers. The average business paper today is much broader in its editorial appeal than it was 15 years ago. For this reason, most business men do not hesitate to subscribe to the leading periodicals of his industry. He regards them as tools of his trade, as indispensable as the fountain pen, the telephone, the cash register, the typewriter or the adding machine.

But it is finding time to read their publications, that troubles so many business men. "I wish I could have more time to read," is a plaint I hear almost everywhere I go.

"Murphy, look at those papers piling up there on my desk. They are gold mines of information. They are filled with ideas that would be worth thousands of dollars to my business if I only had time to read and to try out some of the plans that I would read about. I'd be under everlasting obligation to you if you would tell me how I could re-arrange my time so as to make reading a part of my everyday duties."

So many business men have asked me for help of this kind that I have decided to write a series of articles, telling how it is possible for even the busiest person to devote at least one hour a day to reading. To carry out the reading system which I shall describe, all that it is necessary for a business man to do is to utilize the numerous odds and ends of time that fall his way every day of the year.

It is almost impossible to spend a day without having many spare moments. If the reader will keep track of these odd minutes, for a couple of weeks, he will be surprised to find that they will total around three hours a day. Add the time you spend waiting in barber shops, waiting for appointments, traveling on trains and street cars, waiting for meals, and the time you spend in general in twiddling your thumbs, and it will amount to more than 1200 minutes a week. I have had many persons keep track of their spare time in this manner and it invariably averages around three hours a day.

In making this calculation it is not necessary to include any time that should be devoted to work, to exercise, to recreation, to eating, to sleep, or to social or family duties. There are 24 hours in every day. If these hours are properly employed, they will be found long enough to give plenty of time for work, play, study, recreation, rest and nourishment.

If these three hours of odd moments are devoted to systematic reading, they will give a person time enough to read six trade papers, two daily newspapers, four or five general magazines and about 50 books a year. Even if half of these usually wasted minutes were given to reading, they would be sufficient to enable a person to do a vast amount of reading.

In subsequent articles will be related how busy men in all walks of life find opportunity to read by utilizing the time that most persons waste. I will tell how these men read, what they read, and will also recount a few concrete benefits that they have derived from reading.

Demonstrates New Automatic Stoker

WARREN, Pa., Jan. 5.—A demonstration of a new type of boiler equipped with automatic stoker which is said to eliminate a large portion of smoke in oil refineries, was given to refiners in this section recently at the plant of the Seneca Oil Works here.

After attending the weekly luncheon of the Warren Refiners' Luncheon club, refiners went to the new power house of the Seneca plant. Here George W. Heim, sales agent of the Cokal Pulverzone Stoker Corp., and Charles Zinram, representative of the Union Iron Works, Erie, explained the operation of the two 200-horsepower boilers.

New Equipment to Improve Plants

Personal Notes of the Manufacturers

National Petroleum News

Curtin-Howe Corp., 11 Park Place, New York City, which holds the commercial rights to the new wood preservative developed by the engineering laboratories of the Western Union Telegraph Co., has appointed C. Marshall Taylor, vice president and general manager.

Mr. Taylor has been engaged in wood preservation since 1906 when he became associated with the International Creosoting & Construction Co., Galveston, Tex. He built and operated for 15 years the Port Reading Creosoting plant for the Reading Co. and the Central Railroad of New Jersey. He has been president of the American Wood Preservers Association and is an associate of the American Society of Civil Engineers.

The Western Union Telegraph Co. has developed zinc meta-arsenite as its standard preservative which is permanently fixed in the wood.

* * *

H. P. MacGregor, who has recently gone into partnership as MacGregor and Harcourt, merchant engineers, St. Louis, Mo., has placed on the market the MacGregor self-sealing and self-lubricating rotary valve designed for any liquid or gas under virtually all industrial conditions.

Other advantages claimed for this valve are that it has interchangeable rotors, has lubricant indicator and supply, is easy to turn and has a register to indicate valve in open or closed position.

A special insoluble lubricant fills the lubricant reservoir which feeds the bearing surfaces automatically when needed. It is claimed that no leakage will occur as long as the reservoir contains an insoluble lubricant of high melting point.

Mr. MacGregor was formerly for seven years with the Merco-Nordstrom Valve Co., New York.

* * *

Hendrick Mfg. Co., Carbondale, Pa., manufacturer of Mitco interlocked steel grating and Shur-Site stair treads and Mitco armorgrids, has opened a Chicago district office at 223 Railway Exchange Bldg., Chicago, in charge of Lon Sloan.

* * *

The Cutler-Hammer Mfg. Co., Milwaukee, Wis., has opened its own Pacific coast sales offices at 970 Folsom St., San Francisco; at 229 Boyd St., Los Angeles; and at 2203 First Ave., Seattle, Wash., effective Jan. 1.

Fred H. Oberschmidt, for 15 years with the company, is in charge of the new sales district. A. A. Tuffert and George P. Stone will be associated with Mr. Oberschmidt at San Francisco. Thomas N. Bristow will be in charge at Seattle and Edward G. Nelson, of Los Angeles.

Complete stocks of standard devices made by the company will be carried at all Pacific coast offices.

* * *

Shotwell Pump & Tank Co., Indianapolis, Ind., and Boston, Mass., has embarked on an extension program which will include an increase in capital stock and in the plants at Indianapolis and Boston.

New officers just elected are: W. M. Van Sant, formerly president of the Merchant & Mfg. National Bank, and treasurer of Dyer Sales Corp., president;

O. H. Hershman was re-elected vice president, with the additional responsibility of director of sales;

E. W. Bartram, formerly with the Guarantee Liquid Measure Co., vice president in charge of eastern sales division;

Robert Winslow, of the Union Trust Co., Indianapolis, and formerly treasurer of the R. F. Johnston Paint Co. of Indiana, re-elected treasurer; and

L. B. Sharp, formerly assistant sales manager, assistant treasurer.

The company further reports that many improvements have been incorporated in its pumps and tanks, additions have been made to its line, new representatives have been added in the east and mid-western cities, and that 1927 sales exceeded those of any previous year.

* * *

Graver Corp., East Chicago, Ind., beginning Jan. 1, will have its Texas headquarters at 201-2 Petroleum Bldg., Fort Worth, with T. C. Crosby, formerly of the company's Tulsa offices, in charge of tanks and steel plate equipment sales; H. E. Clark, of the Houston office, which is now discontinued, in charge of Jenkins cracking process and other refinery equipment; and C. J. Hutcheson, of East Chicago, in charge of water softening and filtering equipment sales.

* * *

The Air Reduction Co., Inc., 342 Madison Ave., New York City, has acquired the assets and business of the Carolina Standard Gas Products Co., with an oxygen plant at Charlotte, N. C., giving the former company production and distribution facilities of 36 oxygen plants and 20 acetylene plants. Together with its warehouses, this gives the company 110 distributing points for oxy-acetylene gases, equipment and supplies.

TRIPLEXD GASOLINE HOSE

ALL sizes and lengths of Triplexd Hose are carried in stock in these cities:

MEMPHIS: 245 Monroe Ave.
JACKSONVILLE: Dixie Culvert & Metal Co.
ATLANTA: P. O. Box 1343
RICHMOND: P. O. Box 514
BROOKLYN: 236 Tillary St.
BOSTON: 142 Berkeley St.
PITTSBURGH: 341 Second Avenue
CLEVELAND: 1302 Ontario Street, North
CINCINNATI: 450 East Pearl Street
DETROIT: 5459 Grand River Avenue
ST. LOUIS: 1621 Pine Street
KANSAS CITY: 13th Street and Eastern Ave.
CHICAGO: 1213 W. Washington Blvd.
SAN ANTONIO: 1401 South Flores Street
HOUSTON: 700 N. San Jacinto Street
EL PASO: 1020 East Overland Street
NEW ORLEANS: 211 South Peters Street
MINNEAPOLIS: 900 Sixth Ave., S. E.
DENVER: 4800 York Street
SAN FRANCISCO: 873 Mills Building
LOS ANGELES: 1625 South Hill Street
SEATTLE: 67 Columbia St.
OMAHA: 13th & Willis Sts.
TORONTO, CAN.: Dunlop Tire & Rubber Goods Company, Limited
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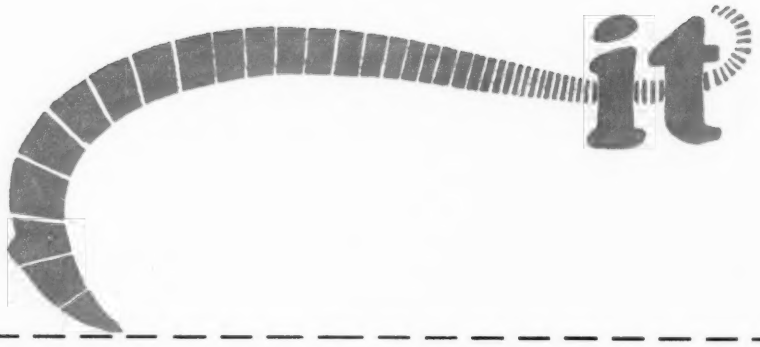
METAL HOSE & TUBING CO. INCORPORATED 236 Tillary Street BROOKLYN, N.Y.

Here's How You Can Stop it



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Cleveland, Ohio

Somebody is always carrying away the office copy of NATIONAL PETROLEUM NEWS and I don't get to see it as often as I should. I've decided therefore to have *my own copy regularly each week.*

Attached is $3.50 for the next 52 issues. (Foreign $5).

Name ..... Div. of Industry .....

St. or Box ..... Company .....

City-State .....

New Patents

Dec. 27

REFINING

Method of Decolorizing Oils Under Pressure—Paul W. Prutzman, Los Angeles, assignor to Contact Filtration Co., San Francisco. Filed Dec. 6, 1926. No. 1,653,735.

Coking Hydrocarbon Oils—Robert E. Wilson, Chicago, and Harold V. Atwell, Whiting, Ind., assignors to Standard Oil Co. of Indiana. Filed Nov. 26, 1924. No. 1,654,200.

Apparatus for Coking Hydrocarbon Oils—Robert E. Wilson, Chicago, and Harold V. Atwell, Whiting, Ind., assignors to Standard Oil Co. of Indiana. Filed Jan. 21, 1927. No. 1,654,201.

Wax Sweating and Crystallizing Apparatus—Hugh Logie Allan and James Moore, Burmah, British India, assignors to the Burmah Oil Co., Ltd., Glasgow, Scotland. Filed Dec. 9, 1924. No. 1,654,232.

Oil Still—John Primrose, Dongan Hills, N. Y., assignor to Power Specialty Co., New York, N. Y. Filed Dec. 28, 1920. No. 1,654,347.

PRODUCTION

Deep-Well Rotary Drilling Apparatus—Earl Abner Reed, Okemah, Okla., assignor to Bess L. Reed, Houston, Tex. Filed Aug. 13, 1924. No. 1,653,876.

Oil-Well Tube Scraper—John Silos Spencer, Pampa, Tex. Filed Jan. 3, 1927. No. 1,653,883.

Quick Change Rotary Drill—Bige Gregory, Vernon, Tex. Filed Aug. 20, 1926. No. 1,653,900.

Rotary Deep-Well Boring Apparatus—Clarence E. Reed, Houston, Tex. Filed June 5, 1924. No. 1,653,928.

Rotary Drilling Apparatus for Deep Wells—Clarence E. Reed. Filed March 17, 1925. No. 1,653,929.

Well Pumping Apparatus—John B. Hawley, Jr., Fort Worth, Tex. Assignor to Hawley Inventions Inc., a corporation of Delaware. Filed Jan. 17, 1924. No. 1,654,329.

Packing for Air-Lift Pumps—George M. Williamson, Shreveport, La. Filed April 12, 1927. No. 1,654,395.

Casing Head—George H. Jaques, Casper Wyo. Filed Feb. 1, 1927. No. 1,654,463.

Underreamer—James M. Miller, Perry Okla. Filed Jan. 6, 1926. No. 1,654,468.

NATURAL GAS

Apparatus for the Treatment of Gases With Liquids—Matthew D. Mann, Jr., Roselle, N. J., assignor to Seth B. Hunt, trustee, Mount Kisco, N. Y. Filed May 14, 1920. No. 1,654,181.

MISCELLANEOUS

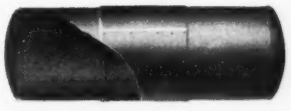
Reagent for Treating Materials Containing Hydrocarbons and Process Of Making the Same—Albert H. Ackerman, Chicago, Ill., assignor to Catalytic Chemical Company, Denver, Colo. Filed Feb. 16, 1927. No. 1,654,154.

Reagent For Treating Materials Containing Hydrocarbons and Process of Making the Same—Albert H. Ackerman, Chicago, Ill., assignor to Catalytic Chemical Company, Denver, Colo. Original Application filed Dec. 21, 1925. Divided and this application filed Feb. 16, 1927. No. 1,654,155.

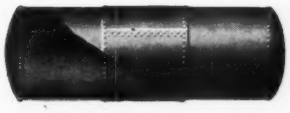
Apparatus For Heating and Emptying Asphalt Tanks—Horace W. Ash, Winchester, Mass. Filed Aug. 10, 1926. No. 1,654,359.

Riveted, Welded or Riveted-and-Welded Tanks of any size for any purpose

All Welded



Stitch Riveted and Welded



Close Riveted

PDM REDHEAD tanks range in capacity from 75 to 26,000 gallons; in diameter from 24 to 126 inches; in length from 3′ 2″ to 40′ 3″. They are made of 3/16″, 1/4″ and 5/16″ metal ordered to weight, with one plate to the ring. They are offered with flat, shallow-dished, full-dished, and shallow-dished reversed-flange heads. They meet the Underwriters' requirements and can be furnished with Underwriters' labels if desired.

Every PDM REDHEAD tank carries a numbered label for identification purposes; a record is kept of all tanks shipped, facilitating re-orders.

PDM REDHEAD tanks are carried in stock in New York City, Philadelphia, Washington, D. C., Pittsburgh, Cleveland, Detroit, Albany, Rochester, Buffalo, Indianapolis, Milwaukee and other large cities. One tank or a carload can be promptly delivered to you from the nearest stock.

Send for specification sheet No. 53 and price lists.

Pittsburgh-Des Moines Steel Company

655 Professional Bldg., Pittsburgh, Pa.

659 Hudson Ter'l Bldg. New York City | **965 First Nat'l Bldg. Chicago, Ill.**

PDM STANDARD CLOSED TANKS FOR ALL PURPOSES

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Oil Price Handbook

RECENT crude and tankwagon price changes have caused many an oil man to study prices prevailing a year ago at this time.

What was Mid-Continent crude a year ago today? Or, what was 58-60 U.S. Motor gasoline in Oklahoma? Or, the tankwagon price of gasoline a year ago? These are some of the questions you are asking yourself right now.

You can get the answers most conveniently, rapidly and accurately in the OIL PRICE HANDBOOK for 1926. It contains the refinery, tankwagon, crude prices and export markets for the entire year 1926 as published in the weekly issues of National Petroleum News. 146 pages, cloth bound, marginal index—price $5. Send for your copy *today*.

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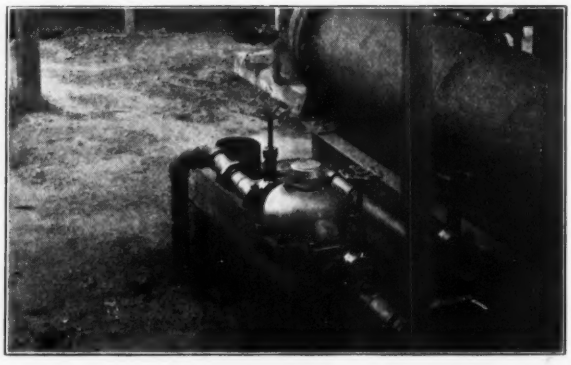

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EXACT measurement is the only safeguard of success in the making, marketing and retailing of petroleum products.

If you are relying upon measurements taken by stick gauges etc., many gallons are probably passing thru the pipes unchecked, and extra profits slipping thru your fingers.

Measure by Meter for Accuracy!

Niagara Meters will positively check such losses, for they are designed to measure automatically by positive displacement, thus eliminating human errors. And they will do more than that. They will provide you with an accurate, hourly and daily inventory.

The photograph above shows a two-inch Niagara Oil Meter which is used for measuring crude oil to a Braun portable still in an Oklahoma Refinery. This company installed their first Niagara Oil Meter five years ago, and today have Niagara Meters operating on a battery of three similar stills.

There is a type and size of Niagara Oil Meter to fit your individual requirements. Write today for full information and descriptive catalogue.

Buffalo Meter Company
2889 Main Street **Buffalo, New York**

Niagara Oil Meters

"The Constant Guardians of Liquid Profits"

Faster Service at Your Filling Stations

ALLISON COUPON BOOKS

Accurate — Compact — Convenient

Wide-awake filling stations are speeding up their service with Allison Coupon Books. No time wasted making change. No large cash balance on hand to invite theft. Furnished in stock or special designs. Absolute accuracy guaranteed. Send for samples and prices.

Allison Coupon Company
Indianapolis, Indiana
Coupon Book Specialists Since 1888.

New Stations Building

Reinbeck, Ia.—Ontjes-Frerichs Oil Co., Grundy Center, will build filling station.

Albia, Ia.—Roxana Petroleum Corp., St. Louis, Mo., is building filling station.

Elgin, Neb.—J. I. Stringfellow, Oakdale, will build filling station.

Oskaloosa, Ia.—C. F. Reams will build service station.

Waterloo, Ia.—Standard Oil Co. of Indiana plans to build filling station.

Petersburg, Neb.—Wirges & Jochum will build filling station.

Helena, Mont.—H. Earl Clack Co. will build two filling stations.

Humboldt, Ia.—John Wonderley is completing filling station.

Union, N. J.—Standard Oil Co. plans to build filling station at Monroe St. and Hackensack plankroad.

Anadarko, Okla.—Roy and S. J. Hanger will build filling station.

Greenville, Mo.—Home Oil Co., Piedmont, will build filling station.

Blackwell, Okla.—Raymond Early and William Darnell are building filling station.

Kansas City, Mo.—Grant W. Stillman purchased site for filling station.

Lawton, Okla.—J. Roy Dunning will build filling station, auto sales room and garage.

Middletown, Conn.—Carmela Siena will build filling station.

Kansas City, Mo.—Standard Oil Co. of Indiana will build filling station.

Springfield, Mo.—Mrs. B. O. Peltz and C. H. Simms each will build filling station.

Hortonville, Wis.—Fred Buchman is completing filling station.

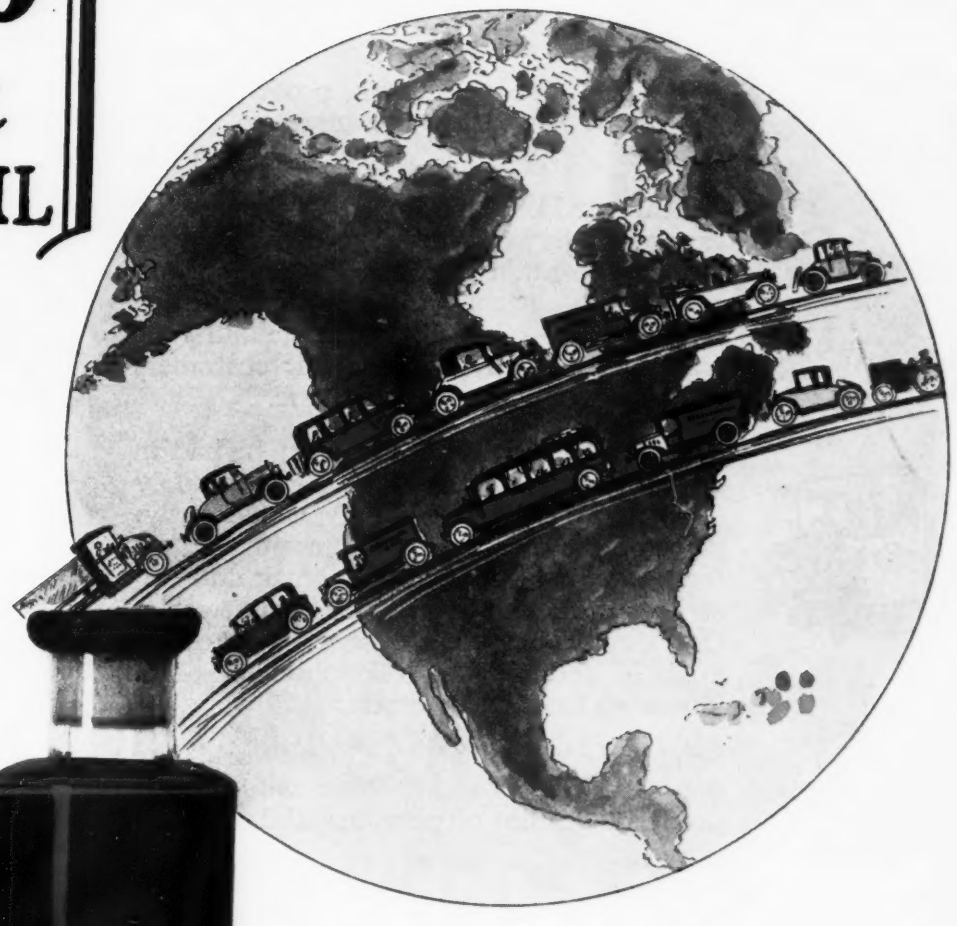
New Institute Division Invites Members

NEW YORK, Jan. 5.—The American Petroleum Institute is sending out to members of the Institute application blanks for membership in the newly formed division of development and production engineering of the Institute. The new division was authorized by the directors at the recent Chicago meeting of the Institute, in accordance with the recommendation of the committee on technical relationships which was appointed by President Clark at the meeting of the Institute in Tulsa in 1926.

All members of the Institute who are interested in development and production of crude oil are eligible to membership in the new division upon payment of annual dues of $2.50.

Erie Meter Systems, Inc., Erie, Pa., manufacturer of the Erie Meter gasoline dispensing equipment, moved into a larger and modern three-story building at Erie on Jan. 1.

1000 *mile* MOTOR OIL



Pass out the extra miles

Motor oils blended with T&P Blending Bright Stocks give 500 extra miles of perfect service. Motorists are quick to discover the greater value of this better oil. They come back for more.

Blenders and Station owners are getting extra dollars for extra miles without extra cost . . . wherever T&P Blending Bright Stocks are used. Samples and quotations will tell you why. Wire for them today.

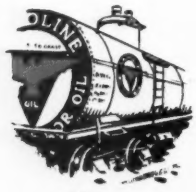
Take in the extra dollars

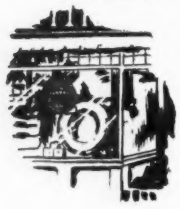
913	
Gravity	23-25
Flash	450-460
Fire	510-520
Vis. @ 210	80-90
Cold Test	10-20
Color	6-7 NPA
Carbon Res. Under	1.5%

915	
Gravity	23-25
Flash	490-500
Fire	565-575
Vis. @ 210	120-130
Cold Test	10-20
Color	7-7½ NPA
Carbon Res. Under	1.5%

TEXAS PACIFIC COAL AND OIL COMPANY
FORT WORTH, TEXAS

ADVERTISE
AT THE POINT OF PURCHASE





WHY not sell your product clear through to the consumer—old John D. Public?

A Schrayer Dee-Kal Transfer on your tank cars, your service trucks, your pumps and motor oil containers, storage tanks, station windows—any space that will catch the eye of the public—will sell your name and your trade mark—and educate your customers to ask for your product by name.

Schrayer Dee-Kal Transfers can be had in *any size* and *any quantity*. Easy to apply—no fuss, no muss—simply wet slightly, place on desired surface, and remove transfer. They will not warp or crack and will serve for years without becoming unsightly. Our service department is maintained to assist in designing and sketching Dee-Kal Transfers for our customers.

Send for our booklet, "Tell the World and you Sell the World." You will find it profitable reading on permanent advertising.

The Schrayer Corporation

founded 1875

917 West Eighteenth St.
Chicago

DEE KAL TRANSFERS
FOUNDED 1875
SCHRAYER
CHICAGO, ILLINOIS
ANY SPACE IS THE PLACE

GRANBERG PETROLEUM METERS
give precise measurements of Petroleum Products

GRANBERG METERS installed on TANK TRUCKS provide a simple and accurate method of truck accounting by maintaining a continuous mechanical record of deliveries.

The use of GRANBERG METERS on TANK TRUCKS eliminates all chances of argument between the Customer and the truck Salesman.

Send For Our Literature

Associated Supply Company
Meter Department
79 New Montgomery St., San Francisco, Calif.

Laboratory's Burner List Increases in 1927

CHICAGO, Jan. 4.—More than 37 oil burner manufacturers were added to the list of the Underwriters' Laboratories last year states a pamphlet issued this week by the Laboratories reviewing the work of 1927. Reference to appliances of the oil industry are made in five of the 12 chapters in the review.

In the gases and oils department there was a substantial increase in work done last year over 1926. Last year more than 100 burner manufacturers were on list, as against 63 in 1926, thirty in 1925, fourteen in 1924 and nine in 1923. Several anti-flooding devices were listed last year in the oil burner accessory division, and work has been undertaken in oil burner strainers, magnetic valve lines, and flexible hose connections. In May a standard was established for the construction and operation of domestic oil burning equipment. The electrical department has worked out a specification for oil burner wiring, and is developing a performance specification for oil burner transformers.

Several new types of continuous gasoline flow systems for service stations were investigated. One type is the continuous flow visible-measure system; the other is the meter system. Much work was done also in improving listed visible-measure systems. Twenty-six manufacturers of underground storage tanks and seven manufacturers of above ground tanks were added to the lists.

Gasoline and kerosene stoves were tentatively classified in 1927 in respect to fire hazard. Class A and Class C gasoline equipment is required to be equipped with anti-flooding devices to shut off the fuel supply in case the master flame goes out or generation is improper. Formal standards for construction and performance of kerosene stoves have been adopted.

New equipment for the gases and oils department is eight 550-gallon storage tanks, making tank wagon delivery possible in place of buying oils in barrels. Pressure pumping equipment was installed for delivering oil to any of the three oil burner laboratories, and several portable automatic oil feed pumps have been provided for testing gravity oil burners. An odd cycle generator in the electrical department has been made available for the oil burner laboratories. A complete oil burner accessory laboratory was installed.

Two manufacturers submitted new types of flame arrestors on breather pipes of crude or gasoline storage tanks. Tests on these types are nearing completion by the department of chemistry. The chemistry department also made reports on four different motor fuel gasolines.

The casualty and automotitve de-

partment early in the year investigated two automobile lifts for service stations. The safety factor was in the strength of the lift and the sustaining platform to prevent workmen being injured.

Collection safes used in service stations for protection against daylight robberies and petty thieving after banking hours were considered by the burglary protection department.

Max Epstein Clinic Opens At Chicago University

CHICAGO, Jan. 5.—Among the New Year greeting cards that have reached the editorial desk of NATIONAL PETROLEUM NEWS is one decorated with an etching of Max Epstein Clinic, University of Chicago. It was dedicated Nov. 1 and during the first month of its existence treated more than 1,000 patients. The connection this bit of news has to the oil industry is a personal one. Max Epstein is president of the General American Tank Car Co.

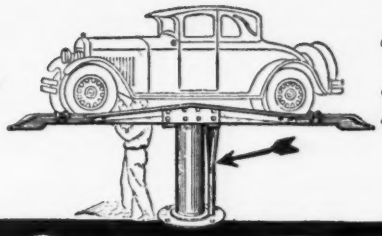
The Epstein Clinic building represents an expenditure of about $1,000,000, and Mr. Epstein contributed extensively to its construction and endowment. Its purpose chiefly is to help people combat ailments they do not know they have. Any comer may apply at the clinic and be examined exhaustively to determine if he has any hidden disease.

It is not a charity institution in the hackneyed sense of the word, but it is free to any person who can not afford to pay. The most that anybody is charged for the complete examination is $3 and the fee may be $2 or $1 or nothing, depending on the patient's financial ability. This is determined by questionnaire. Moreover, the applicant's pride is protected. If he wishes to pay, but does not have the money at the time examination is desired, the institution is quick and liberal with its credit. If anything serious is found the person is directed to the right department for treatment.

Every student of the University of Chicago must be examined once every year, so 15,000 free examinations a year are made by the Clinic. If anything is found to be wrong with the student he gets three days free treatment there. Another purpose of the clinic is to provide experience for the students at the University of Chicago medical college. Each one is assigned to duty there during a part of his course.

Mr. Epstein is proud the Max Epstein Clinic is completely and finely furnished with the latest scientific equipment and is considered the finest of its kind in the world. The next development in the clinic will be a baby clinic, which will be domiciled in the new building of the Chicago Lying In Hospital on Chicago University campus.

"Quick Service"



"Big Profits"

Safety Lift

16 Beaver Street, New York City

GULF Refining Company

General Sales Offices
PITTSBURGH, PA.

District Sales Offices
New York, Houston, Atlanta, Boston, New Orleans, Tampa, Philadelphia, Louisville

REFINERS OF OKLAHOMA TEXAS AND LOUISIANA

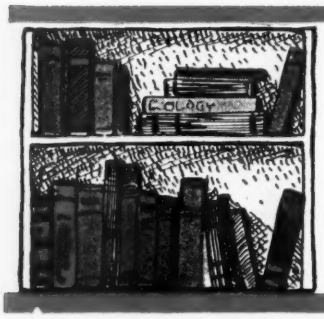
PETROLEUM

REFINED OIL
GASOLINE
NAPHTHA
GAS OILS
PARAFFINE WAX
PETROLEUM COKE

Fuel Oil--Lubricating Oils

CYLINDER ENGINE
CORDAGE

RED AND PALE PARAFFINE OILS



Oil Man's Bookshelf

Where you and industry are identical—

Every successful business is constantly on the lookout to improve its machinery and methods.

You, as an individual, in order to progress must devote a reasonable part of your time to ***improving your mind.***

Good books on various phases of the oil industry will improve your mind, and pay you big dividends.

NATURAL GAS

by L. C. Lichty

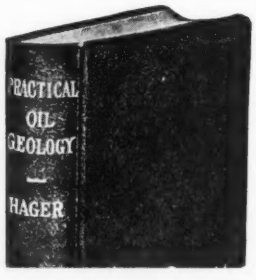
Few books combine the calculations in measurement, compression and transmission of natural gas with practical operating data, as does NATURAL GAS by L. C. Lichty, University of Oklahoma.

Compression in single and double stages; effect of the constituents of natural gas on its deviation from gas laws; compressor characteristics, power curves and other graphs afford the practical man *quick use* of the data in this book.

Tests for gasoline content; design and layout of plants; pipe line construction and flows; storage capacities; machinery used in compression and transmission of natural gas—all described in detail.

523 pages—311 photographs

Price $7.50



Practical Oil Geology

Dorsey Hager, petroleum geologist and engineer, has just come out with his new fourth edition of PRACTICAL OIL GEOLOGY.

His book deals with the application of geology to oil field problems, with new material on the origin of oil; porosity of oil sands; regional and local metamorphism of dykes and volcanic flows and their effects on oil structures; folding under volcanic flows; shallow core drill testing for structures; new tables on oil production; description of work of torsion balance and seismograph; new statistics on geological successes, etc.

PRACTICAL OIL GEOLOGY covers the work of outlining prospective oil lands, drilling and of actual oil-field development brought up to date. It is a clear, concise and practical work on oil geology.

309 pages, illustrated—Price $3

MID-CONTINENT OIL and GAS FORMS

The Mid-Continent Oil and Gas Form Book is written by oil lawyers who have had a wide range of experience representing major oil companies and operators in Oklahoma, Kansas, Texas, Louisiana and Arkansas.

The book contains complete sets of forms for each state having all the usual leases, assignment and royalty forms, etc., and many special forms not obtainable elsewhere in printed form such as surface leases, pickup station leases, seismograph leases, sale of unproduced oil, dry hole money contracts, bottom hole money contracts, contracts to shoot wells and control wild wells, etc. It includes forms not directly connected with the oil industry but frequently used such as curative title forms, quit claim deeds, liens, bills of sale, etc.

Producers and operators in the states of Oklahoma, Kansas, Texas, Louisiana and Arkansas will find the MID-CONTINENT OIL and GAS FORM BOOK a very valuable reference. Price $7.50.

Cut out and mail

National Petroleum News,
Room 703—1213 W. 3rd St., Cleveland, Ohio.

I want the books checked below. Enclosed is check or money order for $_____

- ☐ Natural Gas $7.50
- ☐ Practical Oil Geology $3
- ☐ Mid-Continent Oil and Gas Forms $7.50

NAME_____

Address_____

_____

_____

ON THE LAZY BENCH

National Petroleum News

Hot Dog.—They Will

Oil companies ain't so bad.
Here's experiences that I had.
One asked to put in pumps for me,
And also donate air that's free.
Another wants to sell me grease,
And give me oil just for the lease.
Build a canopy, pave the drive.
Erect a sign, why sakes alive,
I never seen such a generous guy.
"How do you get that way?" says I.

They'll paint the shack, seed the lawn,
Plant some flowers and bed them down.
Wire the place with 'lectric light,
Holy Moses! Ain't it a fright?
I'd take 'em on if they'd furnish the land,
And help me pay for my Hot-Dog stand.

—D. H. Gallup

* * *

The preacher was preaching on the lesser prophets. It had been quite a lengthy sermon already, and it wasn't over yet.

Finally, as the end of the third hour approached, the preacher said: "And now we come to Malachi, the last of the lesser prophets. What will we do with Malachi? Where can we place Malachi?"

Just then an old lady in the rear of the church, who was visibly annoyed by the length of the sermon, arose, saying: "You can give him my seat, I'm going home."

—Barnsdall.

Probability

The movie exhibitor had just insured his theater against fire. As he signed his name he turned to the insurance agent and asked:

"What would I get if my theater was to burn down tomorrow?

"Oh, I should say about ten years," replied the insurance man, nonchalantly.

—The Loreco Diamond

* * *

A lady engaged a new gardener, and after breakfast one day she sauntered out among the flowers. Seeing the new man hard at work, she said: "Well, and how is my Sweet William this morning?"

"First rate, thanks, ma'am," replied the man of the spade. "But how did you know my name?"

—Barnsdall.

* * *

Helene—Better give him the money in nickels.

Harry—Why?

Helene—He looks so bad. I think the change would do him good.

—The Loreco Diamond

* * *

Self Defense

"I often wondered why the English were tea drinkers."

"Yes?"

"Yep, but I know now. I had some of their coffee."

—The Loreco Diamond

That Guiltiest Feeling : : : : : : : : : By BRIGGS

RATHER COLD
WELL WELL HOW DO YOU DO COLONEL
HOW DO
STILL A BIT CHILLY
YOU'RE LOOKING FINE COLONEL HOW'S ALL YOUR FOLKS ?
ALL RIGHT
DETERMINED NOT TO BE DRAWN INTO CONVERSATION
REMARKABLY FINE WEATHER WE'RE HAVING ISN'T IT ?
UH-HUH
WELL ITS BEEN A PLEASURE TO SEE YOU AGAIN COLONEL · · MY REGARDS TO THE FAMILY
G BY
WHO IN SAM HILL WAS THAT !? HIS FACE DOES SEEM FAMILIAR BUT I CAN'T PLACE HIM · · I SPOSE I OUGHT TO HAVE ASKED HIM HIS NAME BUT —— HE WAS SO SEEDY ·
MENTAL COLLOQUY
I'VE GOT HIM PLACED NOW! IT WAS GEORGE CABILLO MY BEST CUSTOMER IN SOUTH AMERICA · OH WHY DIDN'T I ASK HIM HIS NAME WHAT MUST HE THINK OF ME!? HE'S WORTH TEN MILLION · ·
IN THE MIDDLE OF THE NIGHT
BRIGGS

Heavy Duty Folio

$17.35

367—The best constructed folio we have developed. Made from the best 6-oz. smooth black cowhide. Comfortable handles made to carry all the weight, relieving the strain on the seams. Reinforced bottom protected with studs. Three pockets. Two inner cases may be carried.

Less 10% for Cash

Other styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware, KANSAS CITY, MO.

SPECIALTIES MAKE PROFITS

WHEN IN NEED

of

Processed Castor Oil.
Castor Essence.
Single and double strength
Castor Base.

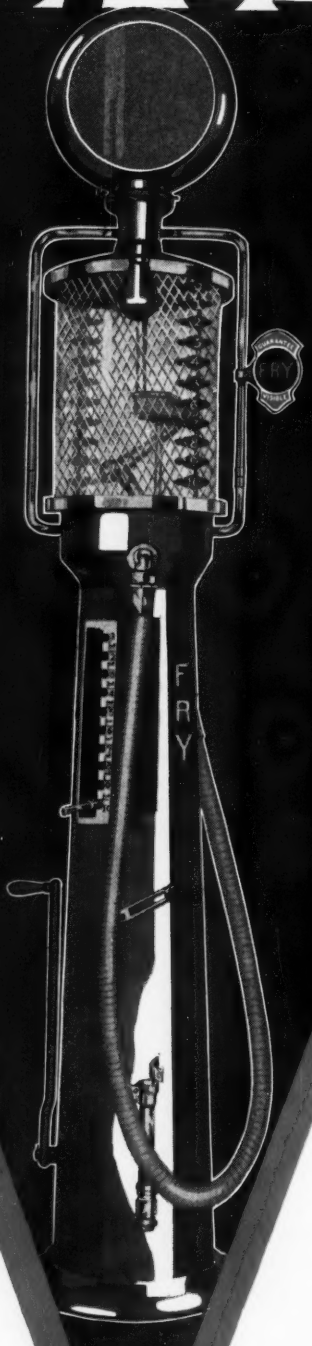
All of which will mix and stay mixed with any lubricating oil.

Zero Cold Test Lard Oil.
Tallow Oil.
Degras.
Sulphur Base.

Communicate with

Seymour Howard Corporation
Manufacturing Chemists
601 W. 53rd Street, Chicago

FRY Speedboy



Price to Oil Companies

$117.50

Retail Price—$127.50

Export Prices on Request

Every up to date progressive gasoline station operator will be interested in the modern features of this Progressive Measuring Pump. New in many features—yet simple and sound in every detail. Only 5 Moving Units. As a matter of fact, there is just nothing to get out of order.

Trap proof! Gas cannot be trapped in the discharge tube because the valve controlling discharge to car is located at top of adjustable discharge tube.

Centralized control! This means the entire control of the pump is had through the use of the single control handle.

The new Speedboy is attracting unusual attention. The live, wide awake marketer sees its immense possibilities.

A Fry representative would like to explain the Speedboy in detail—to you.

Refinery - Tank Wagon Markets

National Petroleum News

Exporters Show Renewed Interest In Mid-Continent Markets

Staff Special
TULSA, Jan. 7

EXPORTERS showed a renewed interest in the market this week, with purchases made both in Oklahoma and Texas. An Oklahoma refiner reported the sale of 2,000,000 gallons of 60-62, 400 end point gasoline. A Texas refiner reported the sale of approximately 800,000 gallons of 64-66, 390 e.p. gasoline, a quarter of a million gallons of 41-43 w.w. kerosene for export, and about 200,000 gallons of 68-70, 360 e.p. gasoline for domestic shipment. Price paid for the 60-62, 400 e.p. gasoline in Oklahoma was reported at 6.375 cents, while the price paid for the 64-66, 390 e.p. goods in Texas was 6.50 cents, and 4.25 cents for the kerosene. The price received for the 360 e.p. goods was not revealed. Indications were that a few more sales of gasoline for export were made, but the amount was not ascertained, but was not thought to be more than a quarter of a million gallons.

This export sale by the Oklahoma refiner means that until he completes the order his plant will not be making U. S. Motor goods for the spot market, and his contracts will be filled from his storage.

The weather was a pessimistic factor this week in the gasoline situation. The extremely cold weather which swept over the country about the middle of last week naturally slowed up consumption considerably. The marketing territory spent most of this week recovering from the cold and not until late in the week was there a noticeable increase in orders.

Another factor which has been operating in the Mid-Continent is competition from northern and eastern refinery centers, and in a few instances extreme southern points. U. S. Motor gasoline is known to have been quoted unusually low into many points, especially where there were advantageous freight differentials in favor of the seller allowing him to quote a lower delivered price, than the Group 3 refiners could offer.

Oklahoma refiners have not been alone in feeling this slowing up of business. Texas refiners have been working on export orders the past several weeks, but some of them are catching up with their commitments and unless some active buying develops within the next week or 10 days they may have more goods to offer on the spot market. Louisiana refiners this week reduced their prices on 58-60 U. S. Motor along with Oklahoma refiners, while the Arkansas refiners, despite the fact that their stocks have been low for some time and two of them have been slowed up due to fires, met competition with lower prices.

Higher gravity gasolines have weathered the storm considerably better than the other grades. The consumer during the winter months is demanding the "winter motor fuel" or high gravity, anti-knock goods. Virtually no changes were made in most of the high gravity gasolines during the week.

All grades of natural gasolines were slightly better in price at the close of the week. Considerable buying of Grade AA has been done recently by two or three large companies. A third company has virtually ceased making Grade C and is selling the AA manufactured to apply on export orders. Consequently this company has been a heavy purchaser of Grade C the past two or three days, the goods to apply on contracts.

THE prevailing price today on Grade AA was 5 cents a gallon, but two or three manufacturers advanced their quotations to 5.25 cents. Sev-

(*Continued on Page* 101)

Gulf Coastal Water Shipments, November Compared with October

(All Figures in Barrels of 42 Gallons)

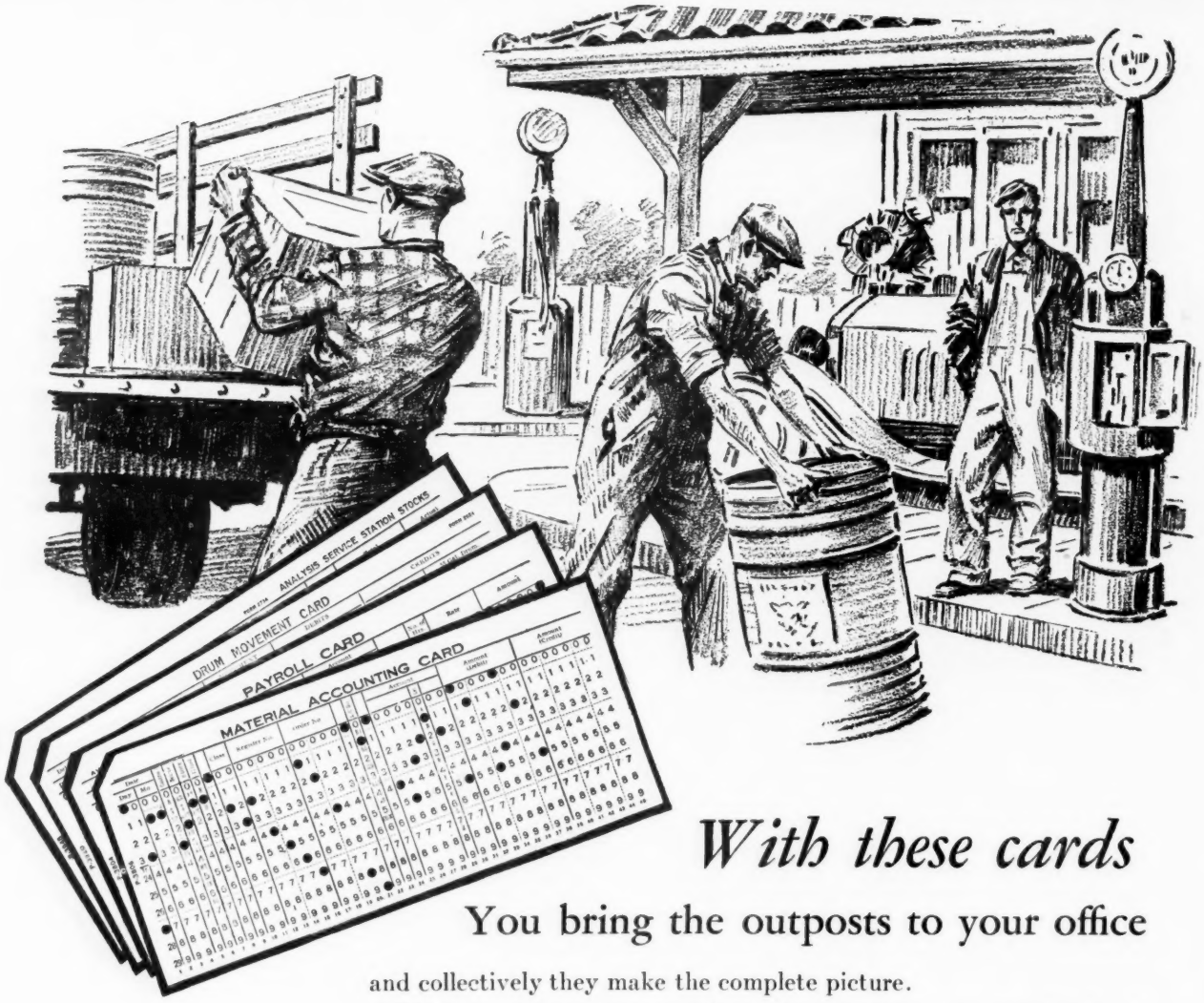
Company - Port	Coastwise Refined October	Coastwise Refined November	Export Refined October	Export Refined November
Standard of Louisiana, Baton Rouge	604,766.00	785,717.00	860,043.00	766,940.00
The Texas Company, Port Arthur	1,023,440.00	1,140,006.00	395,537.00	317,814.00
Gulf Refining Co., Port Arthur	2,888,573.42	2,428,914.10	219,332.45	157,256.66
Magnolia Petroleum Co., Beaumont	1,001,384.38	654,228.33(a)	.....	.....
Sinclair Refining Co., Houston	418,089.46	303,164.45	51,401.91	149,401.99
Humble Oil & Refining Co., Baytown	1,932,210.36	1,580,269.51	753,872.29	1,099,575.23
Marland Oil Company, Texas City	.....	.....(b)	.....	.....
Atlantic Oil Producing Co., Atreco	32,444.28	177,216.64	.....	.....
Galena Signal Oil Co., Houston	31,000.00	.....	.....	55,000.00
Deepwater Oil Refineries, Houston	.....	.....	.....	.....
Keen & Woolf Oil Co., Houston	.....	.....	.....	.....
Pure Oil Company, Smiths Bluff	219,724.86	255,233.41	.....	13,544.14
Totals	8,151,632.76	7,324,749.44	2,280,186.65	2,619,532.02

	Coastwise Crude		Export Crude	
Standard of Louisiana, Baton Rouge	407,433.00	406,645.00	.....	52,854.00
The Texas Company, Port Arthur	.....	.....	.....	.....
Gulf Refining Co., Port Arthur	.....	78,857.18	.....	.....
Magnolia Petroleum Co., Beaumont	698,872.80	709,781.34(a)	.....	.....
Sinclair Refining Co., Houston	481,011.42	439,716.60	.....	.....
Humble Oil & Refining Company:				
Texas City	1,258,161.00	1,211,563.00	.....	.....
Baytown	720,751.00	794,617.00	.....	.....
Ingleside	1,337,119.00	1,410,842.00	.....	.....
Neches Terminal	74,298.00	60,054.00	.....	.....
Atlantic Oil Producing Company:				
Atreco	369,544.38	286,299.61	.....	.....
Beaumont	280,950.54	457,483.34	.....	.....
Smiths Bluff	48,430.23	.....	.....	.....
Pasadena	.....	.....	.....	.....
Swiftsure Petroleum Co., Texas City	211,130.00	85,055.00	.....	.....
Pure Oil Company, Smiths Bluff	585,919.67	341,177.62	.....	.....
Sun Oil Company, Sabine Pass	821,572.00	.....	.....	.....
Crown Central Pet. Corp., Houston	87,370.00	80,000.00	.....	.....
Totals	7,382,563.04	6,362,091.69	.....	52,854.00

(a) Magnolia Petroleum Company makes no distinction in reports between coastwise and export shipments.

(b) No report.

WHEN **POWERS** HANDLES OIL ACCOUNTING



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You bring the outposts to your office

and collectively they make the complete picture.

With Powers system of mechanical accounting, you coordinate at the central office the control of wells, refineries, depots, and service stations. You know your costs, because Powers cards are basic records of men, machines, equipment and supplies. When used with Powers mechanical accounting equipment, they produce in printed form, complete analyses by product and plant.

But this is only the production and refining picture.

Your distribution is analyzed by product, territory, and men. You have a drum control that is comprehensive. You know the cost to operate trucks by mile, tonnage, supplies, maintenance, and depreciation. You have a dependable record of stocks and can demand product or money from each outlet. You know the lines that pay their way.

You can do all this manually? Probably, but at prohibitive expense and with delay that would render information practically worthless for daily direction.

Let us tell you the complete story in bulletin form.

ADAPTATIONS

Powers equipment is in general use wherever such work as this is done:

- General Accounting
- Payroll and Labor Distribution
- Material and Stores Record
- Sales and Profits Analysis
- Insurance Accounting and Statistics
- Public Utilities Accounting
- Census and other Vital Statistics
- Traffic and Transportation Accounting
- Chain Store Sales and Inventories
- Federal, State and Municipal Accounting

REMINGTON RAND BUSINESS SERVICE, INC.
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REG. U.S. PAT. OFF. & FOREIGN COUNTRIES

POWERS
ACCOUNTING MACHINES

POWERS PRINTS NAMES AND WORDS AS WELL AS FIGURES

Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery, except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

GASOLINE AND NAPHTHA

PENNSYLVANIA	Prices Jan. 9	Prices Jan. 3	Prices Dec. 27
52-54 Naphtha	8.00 – 8.25	8.00 – 8.25	8.00 – 8.25
54-56 Naphtha	8.25	8.25	8.25 – 8.50
58-60 Gasoline	8.00 – 8.25	8.00 – 8.25	8.125– 8.25
60-62 Str.-run gasoline	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
64-66 Str.-run gasoline	9.25 – 9.75	9.25 – 9.75	9.25 – 9.75
68-70 Str.-run gas. 350-360 e.p.	10.25 –10.50	10.25 –10.50	10.25 –10.50
OKLAHOMA			
48-50 450 e.p. naphtha	†5.625– 5.75	†5.75	†5.75 – 5.875
50-52 450 e.p. naphtha	†5.625– 5.75	†5.875	†5.875
56-58 450 e.p. gasoline	**5.75 – 5.875	**5.75 – 5.875	6.00
58-60 450 e.p. gasoline	**5.75 – 5.875	**5.75 – 6.00	6.00
56-58 U. S. Motor, 437 e.p.	††5.75	††5.75	††6.00
58-60 U. S. Motor, 437 e.p.	5.625– 6.00	5.75 – 6.00	†5.875– 6.00
60-62 437 e.p. gasoline	5.875– 6.375	5.875– 6.375	6.00 – 6.375
60-62 400 e.p. gasoline	6.25 – 6.50	6.25 – 6.50	6.25 – 6.625
64-66 390 e.p. gasoline	6.75	6.75	6.75
64-66 375 e.p. gasoline	6.875– 7.00	6.875– 7.125	6.875– 7.125
68-70 350-360 e.p. gasoline	7.125– 7.375	7.125– 7.375	7.125– 7.50
KANSAS (F. O. B. refinery Kansas destination)			
58-60 U. S. Motor 437 e.p.	6.125– 6.375	6.25 – 6.375	6.25 – 6.375
60-62 400 e.p. gasoline	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
64-66 375 e.p. gasoline	7.375– 7.50	7.375– 7.50	7.375– 7.50
NORTH TEXAS			
48-52 450 e.p. naphtha	†5.625– 5.75	†5.75	†6.00
56-58 450 e.p. gasoline	†5.75	†5.75	5.875
58-60 450 e.p. gasoline	5.75	5.75	5.875
58-60 U. S. Motor 437 e.p.	†5.625– 5.875	†5.75 – 6.00	†5.875– 6.00
60-62 400 e.p. gasoline	6.125– 6.375	6.125– 6.375	6.25 – 6.375
64-66 390 e.p. gasoline	6.625–6.75	6.625– 6.75	6.625– 6.75
64-66 375 e.p. gasoline	6.875– 7.00	6.875– 7.00	6.875– 7.00
68-70 350-360 e.p. gasoline	7.125– 7.25	7.125– 7.25	7.125– 7.25
NORTH LOUISIANA (For Louisiana and differential territory destination)			
58-60 U. S. Motor gasoline	6.25 – 6.50	6.25 – 6.50	6.50
ARKANSAS (For Arkansas intrastate shipment)			
56-58 450 e.p. gasoline	6.25	6.25	6.25
58-60 450 e.p. gasoline	6.25	6.25	6.25
58-60 U. S. Motor 437 e.p.	6.375	6.50	6.50
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
58-60 U. S. Motor 437 e.p.	**6.25	**6.25	**6.375
CALIFORNIA			
*54-58 U.S. Motor 437 e.p.	7.00 – 8.50	7.00 – 8.50	7.00 – 8.50
*58-61 U.S. Motor 437 e.p.	8.00 – 9.50	8.00 – 9.50	8.00 – 9.50
*42-45 Eng. dis. 445-480 e.p.	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00

*2c tax to be added if used in state.

NATURAL GASOLINE

(Note: End point of all grades, not over 375° F. Since Oct. 1, 1927 all naturals must pass corrosion test.)

OKLAHOMA			
Grade AA, 80-87.9, 90% Recovery	†5.00	†4.875– 5.00	†4.875– 5.00
Grade A, 72-79.9, 90% Recovery	†5.25	†5.25	†5.25
Grade BB, 84-92, 85% Recovery	†4.00 – 4.25	†4.00 – 4.25	†4.00 – 4.125
Grade B, 76-83.9, 85% Recovery	†4.00 – 4.25	†4.00 – 4.25	†4.00 – 4.125
Grade C, 80-92, 78% Recovery	†3.50 – 3.625	†3.50	†3.50
NORTH TEXAS (F. O. B. Breckenridge)			
Grade AA, 80-87.9, 90% Recovery	†5.00	†4.875– 5.00	†4.875– 5.00
Grade A, 72-79.9, 90% Recovery	†5.25	†5.25	†5.25
Grade BB, 84-92, 85% Recovery	†4.125– 4.25	†4.00 – 4.25	†4.00 – 4.125
Grade B, 76-83.9, 85% Recovery	†4.125– 4.25	†4.00 – 4.25	†4.00 – 4.125
Grade C, 80-92, 78% Recovery	†3.625	†3.50 – 3.625	†3.50
NORTH LOUISIANA (F. O. B. Monroe District)			
Grade AA	†5.25	†5.50	†5.50
Grade BB	†4.50	†5.00	†5.00
Grade C	†4.00	†4.50	†4.50
CALIFORNIA			
75-85, 375-390 e.p. blend.	9.00 –10.00	9.00 –10.00	9.00 –10.00

MOTOR FUEL BLENDS

PENNSYLVANIA			
68-70 Blend 437 e.p.	Prices	.....	.....
54-66 Blend 437 e.p.	temporarily	.....	.....
60-62 Blend 437 e.p.	discontinued	.....	.....
OKLAHOMA			
64-66 Blend 437 e.p.	**5.625– 6.00	**5.75 – 6.00	**5.875– 6.00

BURNING OILS

PENNSYLVANIA			
45 w.w. kerosene	6.25 – 6.50	6.25 – 6.75	6.50 – 6.75
46 w.w. kerosene	6.50 – 6.75	6.625– 7.00	6.75 – 7.00
47 w.w. kerosene	7.00 – 7.25	7.00 – 7.25	7.00 – 7.50
OKLAHOMA			
41-43 w.w. kerosene	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50
42-44 w.w. kerosene	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875
KANSAS (F. O. B. refinery Kansas destination)			
41-43 w.w. kerosene	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
42-44 w.w. kerosene	5.625– 5.75	5.625– 5.75	5.625– 5.75
NORTH TEXAS			
40-42 w.w. kerosene	†4.25	†4.25	†4.25
41-43 w.w. kerosene	†4.25 – 4.375	4.25 – 4.375	†4.375
NORTH LOUISIANA (For Louisiana and differential territory destination)			
41-43 w.w. kerosene	5.00	5.00	5.00
ARKANSAS (For intrastate shipment only)			
42-44 kerosene	5.25	5.25	5.25
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
42-44 kerosene	5.00	5.00	5.00
CALIFORNIA			
38-40 w.w. kerosene	5.00 – 5.50	5.00 – 5.50	5.00 – 5.50

NEUTRAL OIL

PENNSYLVANIA Vis.			
	(Viscosity at 70°F.)		
200 No. 3 Assoc. Filt.	33.00 –34.00	32.00 –34.00	32.00 –34.00
180 No. 3 Assoc. Filt.	31.00 –32.00	30.00 –32.00	30.00 –32.00
150 No. 3 Assoc. Filt.	27.00 –27.50	26.25 –27.50	26.25 –27.50
	(Non Viscous)		
34 Grav. 330-340 Flash	7.25 – 7.50	7.25 – 7.50	7.25 – 7.75
36 Min. Neut. 300-305 Flash	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
**OKLAHOMA Vis. Color	(Viscosity at 100°F.)		
100—No. 2	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
150—No. 3	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
150—No. 4	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
180—No. 3	9.00 –10.00	9.00 –10.00	9.00 –10.00
180—No. 4	9.50 – 9.75	9.50 – 9.75	9.50 – 9.75
180—No. 5	9.25 – 9.75	9.25 – 9.75	9.25 – 9.75
200—No. 3	9.50 –11.00	9.50 –11.00	9.50 –11.00
200—No. 4	9.50 –10.75	9.50 –10.75	9.50 –10.75
200—No. 5	8.50 –10.50	8.50 –10.50	8.50 –10.50
220—No. 3	12.50 –13.50	12.50 –13.50	12.50 –13.50
220—No. 4	12.25 –12.50	12.25 –12.50	12.25 –12.50
220—No. 5	11.50 –12.00	11.50 –12.00	11.50 –12.00
240—No. 3	14.00	14.00	14.00
240—No. 4	13.25 –13.50	13.25 –13.50	13.25 –13.50
240—No. 5	12.00 –13.00	12.00 –13.00	12.00 –13.00
280—No. 3	15.50 –16.50	15.50 –16.50	15.50 –16.50
280—No. 4	15.25	15.25	15.25
280—No. 5	14.00 –15.00	14.00 –15.00	14.00 –15.00
300—No. 5-6	17.00	17.00	17.00
**GULF COASTAL Vis. Color	(Viscosity at 100° F., pour test 0)		
100—No. 2 Unfilt. Pale	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
200—No. 3 Unfilt. Pale	9.00 –10.00	9.00 –10.00	9.00 – 9.50
300—No. 3 Unfilt. Pale	10.00 –11.00	10.00 –11.00	10.00 –10.50
500—No. 3½ Unfilt. Pale	12.00 –13.00	12.00 –13.00	11.50 –12.00
750—No. 4 Unfilt. Pale	14.00 –15.00	14.00 –15.00	13.50 –14.00
200—No. 5½ Red Oil	7.00 – 8.00	7.00 – 8.00	7.50 – 8.00
300—No. 5½ Red Oil	8.00 – 9.00	8.00 – 9.00	8.50 – 9.00
500—No. 6 Red Oil	9.50 –10.50	9.50 –10.50	10.00 –10.50
750—No. 6 Red Oil	12.00 –13.00	12.00 –13.00	12.50 –13.00
**CALIFORNIA Vis. Color	(Viscosity at 100°F.)		
100—No. 2	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
100—No. 3	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00
200—No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
300—No. 3	10.50 –11.00	10.50 –11.00	10.50 –11.00
450—No. 3-3½	13.00 –13.50	13.00 –13.50	13.00 –13.50
550—No. 3-3½	14.50 –15.00	14.50 –15.00	14.50 –15.00
600—No. 3-3½	15.00 –15.50	15.00 –15.50	15.00 –15.50
100—No. 5	6.50	6.50	6.50
200—No. 5	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
300—No. 5	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
400—No. 5	11.00 –11.50	11.00 –11.50	11.00 –11.50
500—No. 5	11.00 –11.50	11.00 –11.50	11.00 –11.50
600—No. 5	12.00 –12.50	12.00 –12.50	12.00 –12.50
700—No. 7	14.00 –14.50	14.00 –14.50	14.00 –14.50

CYLINDER STOCKS

**OKLAHOMA			
190-200 Vis. at 210° Brt. St.	31.00 –32.00	31.00 –32.00	31.00 –32.00
150-160 Vis. at 210° Brt. St.	23.00 –25.00	23.00 –26.00	23.00 –26.00
600 E St. 140-150 Vis.-210°	17.00 –18.00	17.00 –18.00	17.00 –18.00
600 St. Ref. Olive Green	9.00 –10.00	9.00 –10.00	9.00 –10.00
600 St. Ref. Dark Green	7.00 – 8.00	7.00 – 8.00	7.00 – 8.00
Black Oil	5.00	5.00	5.00
PENNSYLVANIA	(1-inch Immersion Test)		
600 Steam Refined	9.50 –10.50	9.50 –10.50	9.50 –10.50
650 Steam Refined	11.50 –12.50	11.50 –12.50	11.50 –12.50
600 Flash	16.00 –16.50	16.00 –16.50	16.00 –16.50
625 Flash	27.00 –27.50	27.00 –27.50	27.00 –28.00
600 Warren E	17.00 –19.00	17.00 –19.00	17.00 –19.00
600 Oil City E	15.50 –16.50	15.50 –16.50	15.50 –16.50
600 D Filtered	24.50 –25.50	24.50 –25.50	24.50 –25.50
Cold Test Stock, 40-50 p. p., 140-150 vis. at 210°, 540-550 flash, No. 8 color	29.00 –30.00	28.50 –30.00	28.50 –30.00
40-50 p.p., 140-150 vis. at 210, 540-550 flash, No. 6-6½ color diluted	27.00 –28.00	27.00 –28.00	27.00 –28.00

(Note—Prices of total immersion test goods a[illegible]rage 1 to 3 cents per gallon higher)

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The latest addition to the Pyrene family of fire killers is the 10-gallon Phomene (Foam Type) Extinguisher on wheels, shown at the right.

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2½-Gallon Phomene (Foam Type) Extinguisher

Type D-1 P 10-Gallon Phomene (Foam Type) Extinguisher

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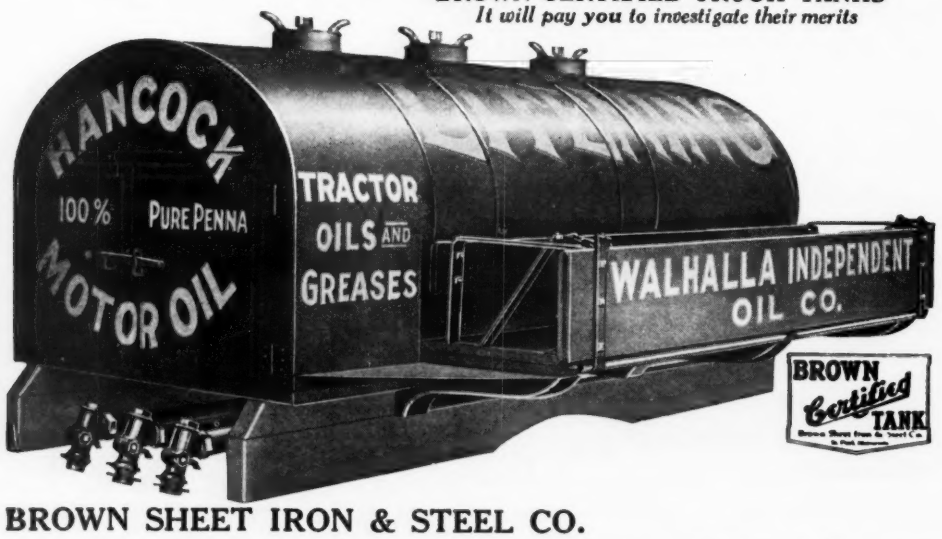
These are the reasons why hundreds of successful Oil Companies have standardized on

BROWN CERTIFIED TRUCK TANKS

It will pay you to investigate their merits



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Other equipment on which you may send prices.....

Name..... Address.....

Refinery Markets on Wax and Heavy Oil Products

Prices given below are in cents per gallon, F. O. B. refinery, except where $ is shown
(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

WAX

PENNSYLVANIA	Prices Jan. 9	Prices Jan. 3	Prices Dec. 27
Per Pound, New York			
122-124 white crude scale	3.00 – 3.125	3.00	3.00
124-126 white crude scale	3.00 – 3.125	3.00	3.00
OKLAHOMA			
**124-126 Semi-refined..	2.50 – 2.75	2.50 – 2.75	2.375– 2.625
CALIFORNIA			
White crude scale, per pound, ton lots.....	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50

FUEL OIL

PENNSYLVANIA			
36-40 fuel oil.....	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
30-34 fuel oil.....	4.625– 4.75	4.625– 4.75	4.625– 4.75
28-32 fuel oil.....	4.625–4.75	4.625– 4.75	4.625– 4.75
OKLAHOMA			
38-40 straw distillate.....	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375
36-38 straw distillate.....	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
*32-36 gas oil, straw.....	†2.50 – 2.75	†2.50	†2.50
*32-36 dark gas oil.....	2.375– 2.50	2.375– 2.50	2.375– 2.50
28-30 fuel oil (in bbls.)...	$0.925– 0.975	$0.925– 0.975	$0.925– 0.975
26-28 fuel oil (in bbls.)...	$0.85 – 0.90	$0.85 – 0.90	$0.85 – 0.90
24-26 fuel oil (in bbls.)...	**$0.80	**$0.80	**$0.80
22-26 fuel oil (in bbls.)...	**$0.75– 0.775	**$0.75– 0.775	**$0.75– 0.775
18-22 fuel oil (in bbls.)...	**$0.70– 0.725	**$0.70– 0.725	**$0.70– 0.725
16-18 fuel oil (in bbls.)...	**$0.70	**$0.70	**$0.70
14-16 fuel oil (in bbls.)...	**$0.70	**$0.70	**$0.70

*Zero cold test low flash goods sell for ¼ cent more per gallon.
Zero cold test fuel oils sell for 5 to 15 cents more per bbl.

KANSAS (F. O. B. refinery Kansas destination.)			
38-40 straw distillate.....	3.50 – 3.75	3.50 – 3.75	3.50 – 3.75
36-38 straw distillate.....	3.25	3.25	3.25
32-36 gas oil.....	2.75 – 2.875	2.75 – 2.875	2.75 – 2.875
24-26 fuel oil	*$0.90 – 0.95	*$0.90 – 0.95	*$0.90 – 0.95
18-22 fuel oil.....	*$0.85	*$0.85	*$0.85
NORTH TEXAS			
38-40 straw distillate.....	3.125– 3.25	3.125– 3.25	3.00 – 3.25
32-36 gas oil, cracked....	2.25 – 2.375	2.25	2.25
32-36 gas oil, uncracked..	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
24-26 fuel oil (in bbls.)...	$0.70	$0.70	$0.725– 0.75

GULF COASTAL	Prices Jan. 9	Prices Jan. 3	Prices Dec. 27
Fuel (in bbls.).....	$1.40 –$1.50	$1.40 – 1.50	$1.40 –$1.50
Gas oil.....	4.375– 4.50	4.375– 4.50	4.375– 4.50
NORTH LOUISIANA (For Louisiana and differential territory destination)			
32-36 gas oil, dark.....	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
32-36 gas oil, straw.....	3.125– 3.25	3.125– 3.25	3.125– 3.25
16-20 fuel oil (in bbls.) ...	$1.00	$1.00	$1.00
ARKANSAS (For Arkansas intrastate shipment only)			
32-36 gas oil, straw.....	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
32-36 gas oil.....	3.00	3.00	3.00
28-32 gas oil.....	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
28-32 gas oil.....	2.75	2.75	2.75
Smackover crude fuel....	$0.975– 1.00	$0.975– 1.00	$0.975– 1.00
CALIFORNIA (F. O. B. San Joaquin Valley. At San Francisco, 4c per bbl. more)			
14-18 fuel oil (in bbls.)...	$0.60 –$0.75	$0.60 – 0.75	$0.60 –$0.75
14-18 Bunker oil (in bbls.)	$0.80 –$1.00	$0.80 – 1.00	$0.80 –$1.00
30-34 gas oil (in bbls.)...	$1.05 –$1.10	$1.05 – 1.10	$1.05 –$1.10
27 Plus Diesel oil (in bbls.)	$0.90 –$1.00	$0.90 – 1.00	$0.90 –$1.00

PETROLATUMS

PENNSYLVANIA (In cents per pound in tank cars; in barrels, in car lots ¾c per pound more.)			
Snow White.....	8.875	8.875	9.25
Lily White.....	7.875	7.875	8.25
Cream White.....	6.875	6.875	7.25
Light Amber.....	3.875	3.875	5.50
Amber.....	3.50	3.50	4.50
Red.....	3.25	3.25	3.75
Green No. 5 color.....	2.625	2.625	3.50

**PETROLEUM COKE

Oklahoma

(Per ton in car lots)			
Lump.....	$5	$5	$5
Still run.....	$3	$3	$3
Breeze.....	$2	$2	$2

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(*Continued from Page* 97)

eral offers were out for Grade C at 3.625 cents a gallon.

Some discussions have been carried on again this week relative to contracts but a majority of them continued to be based on market date of shipment with minimum and maximum under and over price of 58-60 U. S. Motor.

Kerosene demand slowed up somewhat during the week as a result of the cold weather, but no changes were noted in prices. Buying for the spring demand is just around the corner and refiners for the most part are willing to run some goods to storage at this stage rather than push the goods onto the market with the possibility of forcing prices down.

Distillate prices have remained unchanged. Movement has been exceptionally good since the cold weather. Shipments have not been limited to contracts, considerable spot buying having developed in the past few days.

Zero gas oils also have been in active demand in all fields. One Oklahoma refiner has started making some 32-36 gravity zero oil and reported today that whereas two weeks ago he found business comparatively slow at 2.625 cents a gallon, late this week he had been pushed for car numbers with the bulk of his sales being made at 3 cents a gallon.

A north Texas refiner contracted for his output over January and now finds he will have to buy most of the goods on the spot market due to certain changes being made in his plant which will include the closing down of his cracking units for the next 15 or 20 days. He was in the market today seeking to cover his contract requirements for the month.

Fuel oils also were unchanged in prices with movement of low cold test goods improved. Shipments continued to keep pace with production in virtually all districts except Texas.

Low gravity high cold test fuels have been in little demand since the cold weather, but with no surplus piling up refiners have been content to take what business came along at their own prices despite the fact that stiff competition from other areas has been encountered on contract sales for January.

Orders for Oklahoma neutrals and cylinder stocks were slow during the last week of the year, but this week business became somewhat brisker, a majority of refiners making these products reported. No price changes were noted in neutral oils. The prevailing sales prices and quotations on 150-160 Vis. at 210 Bright Stock this week were 23 to 25 cents, instead of 23 to 26 cents which has prevailed for the past few weeks.

Change Texas Air Mail Service

WASHINGTON, Jan. 7.—Effective Feb. 1, air mail service from Chicago to Dallas will be changed to a night schedule, connecting with the route from Dallas to Galveston, via Fort Worth and Houston, and with the route from Dallas to San Antonio, via Fort Worth, Waco, Austin and San Antonio, which latter routes are to begin operation on Feb. 6. Complete schedules will be announced later.

The southbound plane will leave Chicago in the evening on receipt of mail from the transcontinental plane which leaves New York at 12:15 p. m. daily. This will make possible air mail delivery to Dallas and Fort Worth early the following forenoon and at other Texas air mail points in the forenoon or early afternoon of the day following dispatch from New York City.

The northbound planes will leave the Texas terminals in the late afternoon or evening, arriving in Chicago for early morning delivery with direct connection with air mail routes to St. Paul, Minneapolis and Detroit. Connection will also be made with the eastbound transcontinental plane at Chicago due to arrive at the New York terminal in the late afternoon.

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Our 30 years of experience is our guarantee to you of the finest and best products that can be produced.

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Warren, Penna.

Low Cold Test Fuels Feature Chicago Market

CHICAGO, Jan. 7.—Bright spot of week in Chicago resale market was demand for low cold test fuels and distillate. Inquiry for these products was especially heavy during early days but continued in good volume all week. Intense cold and snow over New Year's holiday resulted in larger consumption by housholders, and distributors had to work overtime filling orders. Refiners and marketers are reported behind on shipments as nearly all orders are for immediate delivery.

Gasolines have been quiet. Reports from nearby distributing territories tell of towns snowbound and highways virtually impassable especially early in fore part of week. Jobbers continued buying only immediate requirements and consequently most orders were for small lots. Prices were generally unchanged throughout week and most sales of U. S. Motor continued at 5.875 to 6 cents. Some U. S. Motor moved as low as 5.50 cents direct to trade and some goods reported moving into Ohio low as 5.25 cents, f. o. b. Group 3.

Higher gravity gasolines were also quiet this week. Prices were generally unchanged over last week. The 60-62, 437 e.p. and 5.875 to 6.25 cents after moving at 6 to 6.25 cents until Saturday. All other gasolines, distillate, gas and fuel oils were unchanged in price over last week.

Bulk Oil Sales Office Opened by I.O.M.A.

CHICAGO, Jan. 7.—Independent Oil Men of America, Jan. 1 opened a refinery sales department in its office at 624 S. Michigan Ave., Chicago, with J. S. Hoagland in charge of light oil sales and E. E. Jensen in charge of lubricating oil sales. Both men are widely known in the oil industry, having given most of their business years to bulk oil sales.

Mr. Jensen came to the association first, starting to work early in December without any announcements being made. He spent December calling on the members, studying the character of the work and acquainting himself with the tasks in hand. His official title is manager of the Red Hat motor oil department. Although his is largely a sales function he is there to help any member in any problem of lubrication that may come up.

Mr. Hoagland has the task of moving the output of four refineries owned and operated by refinery members of the I. O. M. A. whose tank cars now exhibit the Spread Red Eagle emblem. The refineries are Kanotex Refining Co., Arkansas City, Kan.; Omar Refining Co., Tulsa, Okla.; Panhandle Refining Co., Wichita Falls, Texas; and Vickers Petroleum Co., Wichita, Kan. It has been announced to members that the four refiners have subscribed the necessary funds to finance the new bulk sales department.

"Jay" Hoagland joined I. O. M. A. direct from Hughes & Co. and before that he was several years with the W. H. Barber Co., both in Chicago. His wide acquaintance was built up during his years of service in bulk sales work with the Union Oil Co., which was taken over about five years ago by the Sinclair interests and subsequently absorbed.

Mr. Jensen has been in the oil business since 1908. Shortly afterward he met L. V. Nicholas, now president of the I. O. M. A. Mr. Nicholas was than a jobber in Omaha, Neb., and Mr. Jensen was representing National Refining Co. of Cleveland. He was later a division manager for Sinclair Refining Co., afterwards stationed in New York as general sales manager in the eastern district for Pure Oil Co., and more recently in charge of refinery sales for Pierce Oil Corp., in St. Louis.

31 Cities Consider Municipal Airports

WASHINGTON, Jan. 7.—The following cities are announced considering the establishment of municipal airports since Dec. 1, by the Aeronautics Branch of the Department of Commerce.

Mobile, Ala., Crescent City, Calif., Manford, Calif., Long Beach, Calif., Santa Maria, Calif., Lamar, Colo., Bradentown, Fla., Gainesville, Ga., Nampa, Idaho, East St. Louis, Ill., Louisville, Ky., Caribou, Me., Baldwin, Mich., Duluth, Minn., Fergus Falls, Minn., Biloxi, Miss., Far Rockaway, N. Y., Lake Placid, N. Y., Salisbury, N. C., Devil's Lake, N. D., Cincinnati, Ohio, Neppner, Oregon, Albany, Oregon, Crosbyton, Tex., Graham, Tex., Petersburg, Va., Roanoke, Va., Enumclaw, Wash., Huntington, W. Va., Charleston, W. Va., Jabeticabal, interior of Sao Paulo, Brazil, S. A.

Week's Price Changes Tank Wagon Markets

Gasoline Changes

Standard of Kentucky—S.s. price only of gasoline reduced 3 cents, Montgomery, to 16 cents, **Dec. 30.**

T.w. and s.s. prices gasoline advanced 1 cent, Mobile, account city tax effective **Jan. 1.** This city tax is added to both tank wagon prices published in the accompanying tank wagon table.

Tank Wagon, Service Station Markets for Gasoline and Kerosene In United States Territories and Canada

(As posted by principal marketing companies)

(OIL PRICE HANDBOOK has t.w. and s.s. markets for whole year arranged for quick reference)

These Prices In Effect January 9, 1928

S.O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Atlantic City, N. J.	16	2	18	20	14
Newark, N. J.	16	2	18	20	14
Annapolis, Md.	16	4	20	23	12
Baltimore, Md.	16	4	20	23	10
Cumberland, Md.	16	4	20	23	14
Washington, D. C.	16	2	18	21	12
Danville, Va.	16	4½	20.5	*	14
Norfolk, Va.	16	4½	20.5	23.5	12
Richmond, Va.	14	4½	18.5	21.5	14
Roanoke, Va.	16	4½	20.5	23.5	14
Petersburg, Va.	16	4½	20.5	23.5	14
Charleston, W. Va.	16	4	20	23	14
Keyser, W. Va.	16	4	20	*	14
Parkersburg, W. Va.	13	4	17	20	14
Wheeling, W. Va.	16	4	20	23	14
Charlotte, N. C.	16	4	20	23	14
Hickory, N. C.	16	4	20	23	14
Mt. Airy, N. C.	16	4	20	23	14
Salisbury, N. C.	16	4	20	23	14
Charleston, S. C.	15	5	20	23	14
Columbia, S. C.	15	5	20	23	14

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

*New York City	17	0	17	21	15
Albany, N. Y.	13	0	13	15	15
Buffalo, N. Y.	15	0	15	18	14
†Rochester, N. Y.	13	0	13	16	13
Syracuse, N. Y.	15	0	15	15	15
Boston, Mass.	17	0	17	18	15
Augusta, Me.	17	4	21	21	15
Manchester, N. H.	17	4	21	23	15
Burlington, Vt.	17	3	20	22	15

*In steel barrels.

†It is reported that S. O. New York is selling a second grade of gasoline at Rochester, 4c below the above posted prices which apply on its Socony grade.

ATLANTIC REFINING

Pittsburgh, Pa.	16	*	16	*22	14
Philadelphia, Pa.	15	*	15	*21	14
Allentown, Pa.	16	*	16	*22	14
Erie, Pa.	12	*	12	*18	14
Scranton, Pa.	16	*	16	*22	14
Altoona, Pa.	16	*	16	*22	14
Dover, Del.	16	3	19	22	14
Wilmington, Del.	16	3	19	22	14
Providence, R. I.	17	2	19	19	15
Boston, Mass.	17	0	17	17	15
Springfield, Mass.	18	0	18	18	15
Worcester, Mass.	17	0	17	17	15
Hartford, Conn.	18	2	20	20	15
New Haven, Conn.	18	2	20	20	15

*3-cent state tax is collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Lexington, Ky.	13	5	18	21	15.5
Louisville, Ky.	13	5	18	21	15
Covington, Ky.	14	5	19	22	15.5
Carksdale, Miss.	13	4	17	20	11.5
Gulfport, Miss.	††14.5	4	††18.5	21.5	14
Jackson, Miss.	13	4	17	20	13.5
Natchez, Miss.	12.5	4	16.5	19.5	14
Vicksburg, Miss.	12.5	4	16.5	19.5	14
Birmingham, Ala.‡	14	4	18	21	14.5
Mobile, Ala.‡	14	4	18	21	14
Montgomery, Ala.*‡	12	4	16	16	15.5
Atlanta, Ga.	13	4	17	19	†14
Augusta, Ga.	15	4	19	22	†16.5
Macon, Ga.	12	4	16	19	†13.5
Savannah, Ga.	13	4	17	19	†14.5
Jacksonville, Fla.°	13	5	18	21	11.5
Miami, Fla.°	15	5	20	23	14.5
Tampa, Fla.°	13	5	18	21	13
Pensacola, Fla.°	**14	5	**19	22	13

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

‡Alabama gasoline prices include 1/40 of 1c inspection fee. Mobile gasoline prices include 1c city tax.

†Georgia kerosene prices include 1c state tax.

°Florida gasoline prices include ½c inspection fee.

**Both tank wagon prices include 1c city tax at Pensacola, which went into effect Oct. 15, 1926.

††Both tank wagon prices at Gulfport include Harrison county privilege tax of 2c.

S. O. INDIANA

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Chicago, Ill.	14	2	16	18	12
Decatur, Ill.	11.5	2	13.5	15.5	12.1
E. St. Louis, Ill.	13.1	2	15.1	17.35	11.2
Joliet, Ill.	14.4	2	16.4	18.4	12.3
Peoria, Ill.	10	2	12	12	12.1
Quincy, Ill.	14.2	2	16.2	18.2	11.9
Indianapolis, Ind.	11.2	3	14.2	15.2	13.2
Evansville, Ind.	14	3	17	19	13
South Bend, Ind.	14.4	3	17.4	17.4	13.4
Detroit, Mich.	12.8	3	15.8	17.8	13.7
Grand Rapids, Mich.	11	3	14	16	13.6
Saginaw, Mich.	14.9	3	17.9	19.9	13.8
Green Bay, Wis.	14.6	2	16.6	18.6	12.4
Madison, Wis.	14.3	2	16.3	18.3	12.1
Milwaukee, Wis.	14.1	2	16.1	18.1	11.9
La Crosse, Wis.	15.2	2	17.2	19.2	13
Minneapolis, Minn.	12	2	14	14	12.9
Duluth, Minn.	13.5	2	15.5	17.5	12.9
Mankato, Minn.	12.1	2	14.1	16.1	12.7
Des Moines, Ia.	11.9	3	14.9	16.9	12.3
Davenport, Ia.	12.5	3	15.5	17.5	12.3
Sioux City, Ia.	14.1	3	17.1	19.1	11.9
Mason City, Ia.	14.5	3	17.5	19.5	12.3
St. Louis, Mo.	*13.6	2	15.6	17.9	11.3
Kansas City, Mo.	†12.9	2	14.9	16.9	10.6
St. Joseph, Mo.	†12.5	2	14.5	16.5	11.2
Fargo, N. D.	13	2	15	17	14.9
Grand Forks, N. D.	17.2	2	19.2	21.2	15.2
Minot, N. D.	16.9	2	18.9	20.9	14.9
Pierre, S. D.	15.5	4	19.5	21.5	13.9
Huron, S. D.	15.5	4	19.5	21.5	13.9
Wichita, Kans.	10.8	2	12.8	12.8	10.8
Bartlesville, Okla.	12.8	3	15.8	17.8	10.8

S. O. Indiana's quantity discount schedule on tank wagon deliveries of gasoline outside the city of Chicago is 1c for 50 gals. or more at one delivery; 1½c for 6,000 gals. or more a month; 2c for 10,000 gals. or more a month, and 3c for 15,000 gals. or more a month.

In Chicago, above discounts apply, except that minimum required quantity to get the 1c discount is 100 gals., instead of 50 gals. This 1c discount applies on quantities of 100 gals. and over, in addition to regular Q.D.A. discounts applying thru rest of territory, as stated above.

Service station discount is 2c per gal. to consumers of 200 gals. or more a month, or 2400 gals. per year.

Discount on kerosene is 1c on 50 gal. dumps throughout territory.

*Includes city tax of ½c.

†Includes city tax of 1c.

S. O. NEBRASKA

Omaha, Neb.	14.25	2	16.25	16.25	12.25
McCook	12.75	2	14.75	16.75	11.50
Norfolk	14.75	2	16.75	18.75	12.75
North Platte	15.75	2	17.75	19.75	13.50
Scottsbluff	15.25	2	17.25	19.25	13.00

CONTINENTAL OIL

Denver, Colo.	13	3	16	18	12.5
Pueblo, Colo.	13	3	16	18	14.5
Grand Junction, Colo.	17.5	3	20.5	22.5	18
Casper, Wyo.	14	3	17	19	13
Cheyenne, Wyo.	15	3	18	20	14.5
Butte, Mont.	19	3	22	22	19
Helena, Mont.	19.5	3	22.5	24.5	19
Salt Lake City, Utah	16.5	3½	20	21	17
Boise, Ida.	19.5	4	23.5	25.5	19
Twin Falls, Ida.	19.5	4	23.5	25.5	19
Albuquerque, N. M.	16	5	21	24	17

S. O. CALIFORNIA*

Phoenix, Ariz.	19	4	23	27	21.5
Los Angeles, Cal.	13.5	3	16.5	20.5	15.5
Fresno, Cal.	14	3	17	21	16.5
San Francisco, Cal.	14	3	17	21	15.5
Reno, Nev.	18	4	22	26	19
Portland, Ore.	14.5	3	17.5	21.5	16.5
Seattle, Wash.	14.5	2	16.5	20.5	16.5
Spokane, Wash.	18.5	2	20.5	24.5	20.5
Tacoma, Wash.	14.5	2	16.5	20.5	16.5

*On Oct. 1, t.w. price at all points for spot sales, was advanced 1c. Very large portion of deliveries are under contract carrying above prices. New customers signing contracts and selling only one brand of gasoline, are given prices published in above table.

S. O. LOUISIANA

Little Rock, Ark.	11	5	16	16	11
Alexandria, La.	13	2	15	18	†14
Baton Rouge, La.	12	2	14	17	†12.5
Lake Charles, La.	13.5	2	15.5	18.5	†14
New Orleans, La.	13.5	2	*15.5	*18.5	†14
Shreveport, La.	13.5	2	15.5	18.5	†13
Lafayette, La.	13	2	15	18	†13.5
Bristol, Tenn.	16	3	19	22	14
Chattanooga, Tenn.	16.5	3	19.5	22.5	15
Knoxville, Tenn.	16.5	3	19.5	22.5	15
Nashville, Tenn.	15	3	18	21	15
Memphis, Tenn.	12	3	15	16.5	14

*New Orleans gasoline prices include 1c parish tax in addition to 2c state tax and kerosene prices include 1c state tax and 1c parish tax.

†Kerosene price in Louisiana includes 1c state tax.

S. O. OHIO

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
All Ohio points	14	3	17	19	14

MAGNOLIA PETROLEUM

Muskogee, Okla.	12	3	15	18	10
Oklahoma City	10	3	13	14	10
Tulsa, Okla.	10	3	13	14	10
Fort Smith, Ark.*	13	*3	16	19	10
Little Rock, Ark.	11	5	16	16	11
Texarkana, Ark. *	11	*3	14	15	12
Dallas, Tex.	11	3	14	17	11
Fort Worth, Tex.	11	3	14	16	10
Houston, Tex.	10	3	13	15	15
San Antonio, Tex.	10	3	13	15	10
El Paso, Tex.	11	3	14	15	16

*Within City of Texarkana and Fort Smith, the state tax on gasoline is 3c per gal. conforming with the Texas state tax. In these two districts outside of the city the 5c Arkansas tax applies.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Spirits	V.M. & P. Naphtha	Cleaner Naphtha
Chicago	16	18	18
Detroit	17.7	19.7	19.7
Kansas City	†16.2	†18.2	†18.2
Milwaukee	16.7	*20.7	*20.7
Minneapolis	*20	*22	*22
St. Louis	15.9	17.9	17.9
New York	...	19	....

*Includes 2c state tax.

†Includes 1c city tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Toronto	19.5	3	22.5	26	21
Ottawa	19.5	3	22.5	26	21
Cochrane	24.5	3	27.5	36	26
Ft. William	24.5	3	27.5	31	23.5

MANITOBA

Winnipeg	24.5	3	27.5	31	23.5

SASKATCHEWAN

Regina	27.5	0	27.5	32	26.5

ALBERTA

Edmonton	26.5	3	29.5	33	25.5
Calgary	22.5	3	25.5	29	23.5

BRITISH COLUMBIA

Vancouver	21	3	24	28	22

QUEBEC

Montreal	20.5	3	23.5	27	21
Quebec City	22.5	3	25.5	31	23
Three Rivers	22.5	3	25.5	30	23

NEW BRUNSWICK

St. John	24.5	3	27.5	32	24
Moncton	24.5	3	27.5	32	24

NOVA SCOTIA

Halifax	24.5	3	27.5	32	24
Sydney	24.5	3	27.5	32	24

PRINCE EDWARD ISLAND

Charlottetown	24.5	3	27.5	31	24

Note: In districts surrounding these points 1c additional is added to city price.

Cold Weather Helps Burning Oil Demand on Atlantic Seaboard

Staff Special
NEW YORK, Jan. 7

A HEAVY movement of domestic burning oils together with a fairly steady demand for the lighter refined oils were the outstanding features in eastern domestic markets this week. Prices for all petroleum products were generally unchanged in the majority of sections along the seaboard.

The cold weather which spread over the northern parts of the seaboard, brought the smaller jobbers into the market clamoring for rush shipments of furnace oil. In spite of near zero weather, motoring held up sufficiently well to keep gasoline moving from refineries and seaboard terminals in fair volume. Distress offerings were at a minimum.

A Bayonne refiner reported the demand for domestic burning oil so far this season had been twice as large as at the same time last season. A large Boston jobber whose sales of gasoline and other oils approximates nearly 3,000,000 gallons monthly in summer, asserted this week that increased consumption of burning oil this season was bringing his gallonage up to the point where they would doubtless show a monthly average of 3,000,000 gallons of petroleum products.

The increased demand for burning oils had no bullish effect on prices, however. Furnace oil of 38-42 gravity was available in tank cars at Bayonne at 6 cents a gallon. In the New England district, a wide range of prices was quoted by leading refiners for 36-40 gravity goods. In some quarters, this grade was offered at as low at 5.50 cents a gallon, whereas one refiner whose output for the rest of January is already committed, advanced his price to 7 cents for February delivery and said he was not anxious to take on business for shipment so far ahead.

Stocks of heavier burning oils at New England refineries continued large and relatively low prices were being quoted. Gas oil, 28-34 gravity, was offered as low as 4.50 cents a gallon in tank cars, whereas 7.45 cents was the minimum price quoted for this grade, except in rare instances, by Bayonne refiners. When less than 4.75 cents was quoted at Bayonne, the sulphur content of the oil was usually high, making the oil undesirable for home heating.

The 8 to 8.25-cent range which has held for U. S. Motor gasoline in tank cars at Bayonne since Dec. 1 continued this week. The position of the major dealers was virtually the same as a week ago while the numbers of those taking on business at the high and the low prices of the range were about equal.

Prices at Baltimore and Philadelphia, likewise, remained the same, 8 to 8.25 cents in the former market and 8.25 cents flat in the latter.

In New England, retail marketing conditions commanded greater concern than did wholesale markets. At Boston, the writer observed prices posted at service stations anywhere from 12 cents a gallon up to 17 cents for an ordinary grade of motor fuel. The low prices in most cases were posted by small companies that operate one or two stations, but at the same time these prices were for well known brands of gasoline.

At Providence, price cutting was worse. As ridiculous as it may seem, it was said on good authority that automobile owners were naming their own prices for five gallons of gasoline at some stations in that city. New England refiners expressed little surprise when speaking of this condition and said they had been running into extremely low competition from other areas in the Providence market.

U. S. Motor gasoline, f.o.b. New England refineries and seaboard terminals, remained around 8 cents a gallon with some sellers quoting 8.25 cents and others reporting they were taking on some business at 7.75 cents.

At Savannah, U. S. Motor was available in some quarters at 7.50 cents, 0.25 cent lower than a week ago, but in other southern seaboard districts prices were generally unchanged.

Grade C bunker oil sold at $1.15 at Philadelphia again this week, but the market was unchanged at $1.35 a barrel at New York harbor refiners and business was reported fairly steady.

Gulf Export Market is Becalmed; Prices Are Unchanged

Staff Special
NEW YORK, Jan. 7

WITH the market practically devoid of foreign inquiries, little trading of consequence developed at the Gulf this week. Prices were unchanged.

Suppliers reported the light oil market virtually dead. A marked decline was noted in heavy oil prices but this market likewise was devoid of buyers. One exporter in trying to "laugh off" the stagnant condition of the market, said he "could be ten times as busy as he was, sleep half the day, and still keep pace with his work."

The market this week consisted largely of the offers made by brokers who in turn were fortunate enough to obtain firm offers from suppliers, but the prices which brokers quoted were pretty much in line with those offered by suppliers direct.

AN inquiry for a mixed cargo placed by a United Kingdom buyer early in the week, was later withdrawn. Attractive prices were made but it was understood that suppliers were unable to meet the distillation tests required for one grade of gasoline included in the inquiry.

Today an inquiry from a French account was said to be in the offing, but details of the buyers' requirements were unknown to the trade generally. The supplier holding the inquiry, today indicated doubtless something of a definite nature would develop next week.

Quotations for gasoline were unchanged with U. S. Motor offered at 7.25 cents, 61-63, 390 end point at 8 cents, and 64-66, 375 end point at 8.50 cents.

It was doubtful if better than 7 cents and 6 cents could be done for water white and prime white kerosene in mixed cargoes. A full cargo of water white goods, however, was offered at 6.75 cents.

Gas oil was offered by one large supplier at 0.125 cent lower than it was quoted by most refiners. Twenty-six plus gravity gas oil was quoted at 4 cents, whereas 4.125 cents has been the low for approximately two months past.

Cargoes of bunker C fuel oil were offered at $0.95 a barrel in some quarters and one supplier indicated he might consider selling at $0.90 if there were a buyer.

Prices of fuel for bunkering purposes as well were down approximately 5 cents a barrel. Bunkers sold at $1.15 a barrel at New Orleans and $1.20 further west on the Gulf.

The market for Mexican heavy oils was generally unchanged. Grade C for bunkering stood at $1.35 at Tampico and heavy Panuco was posted at $1.10.

Activity was reported to have subsided considerably in the New Orleans wax market but prices reflected somewhat the upward trend noted in New York.

Complete Seaboard Market

Export markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the years 1924-1925-1926)

Eastern Domestic Market

(Prices for tank car lots, f.o.b. refinery or seaboard terminal, represent majority of quotations and sales.)

	Jan. 9	Jan. 3	Dec. 27
U.S. Motor gasoline, New York harbor	8.00 – 8.25	8.00 – 8.25	8.00 – 8.25
U.S. Motor gasoline, Philadelphia	8.25	8.25	8.25 – 8.50
U.S. Motor gasoline, New England	8.00	8.00	8.00 – 8.25
U.S. Motor gasoline, Baltimore	8.00 – 8.25	8.00 – 8.25	8.00 – 8.50
U.S. Motor gasoline, Norfolk	8.25	8.25	8.25 – 8.50
U.S. Motor gasoline, Wilmington	8.25	8.25	8.25
U.S. Motor gasoline, Charleston	8.00	8.00	8.00
U.S. Motor gasoline, Savannah	7.50 – 7.75	7.75	7.75
U.S. Motor gasoline, Jacksonville	7.50 – 7.75	7.50 – 7.75	7.75
California U.S. Motor gasoline, Baltimore	8.50	8.50	8.50
California U.S. Motor gasoline, Philadelphia	8.50	8.50	8.50
Water white kerosene, New York harbor	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
Water white kerosene, Philadelphia	7.00 – 7.50	7.00 – 7.50	7.25 – 7.50
Water white kerosene, Baltimore	7.00 – 7.50	7.00 – 7.50	7.25 – 7.50
Water white kerosene, New England	†7.50	†7.50	†7.50
28-34 gas oil, New York harbor	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
28-34 gas oil, New England	4.50 – 4.75	4.50 – 4.75	4.50 – 5.00
38-42 furnace oil, New York harbor	6.00	6.00	6.00
36-40 furnace oil, New England	5.50 – 6.00	5.50 – 6.00	5.50 – 6.00
Grade C bunker oil, New York harbor	$1.35	$1.35	$1.35
Grade C bunker oil, New England	$1.35 –$1.40	$1.35 –$1.40	$1.35 –$1.40
Diesel oil, New York harbor	$2.10	$2.10	$2.10
MEDICINAL OILS			
Russian 885-890 s.g., 325-330 vis.	$0.80 – 0.90	$0.80 – 0.90	$0.80 – 0.90
Russian 870-875 s.g., 150-155 vis.	$0.67 – 0.77	$0.67 – 0.77	$0.67 – 0.77
Russian 860-865 s.g., 80-85 vis.	$0.65 – 0.75	$0.65 – 0.75	$0.65 – 0.75

†Only one refiner quoting.

New York Export Market

(Gasoline and kerosene in cases in bulk. Lubricating oils are per gal. in bbls. Cylinder oils are Penna. products.)

	Jan. 9	Jan. 3	Dec. 27
U. S. Motor gasoline	23.90	23.90	23.90
43-45, 150 w.w. kerosene	18.15	18.15	18.15
42-44, 110 s.w. kerosene	17.15	17.15	17.15
CYLINDER OILS			
Bright stock, dark	34.00 –35.00	35.00 –36.00	35.00 –36.00
600 D filtered	30.00	30.00 –31.00	30.00 –31.00
600 Warren E filtered	24.00 –25.00	25.00 –26.00	25.00 –26.00
600 s.r. unfiltered	17.00	17.00	17.00
650 s.r. unfiltered	18.50 –19.00	18.50 –19.00	18.50 –19.00
600 flash s.r.	20.00 –21.00	20.00 –21.00	20.00 –21.00
630 flash s.r.	33.00	33.00	33.00
RED ENGINE OILS (Vis. 100°)			
300 vis. No. 6½ color	20.00	20.00	20.00
250 vis. No. 6 color	19.00	19.00	19.00
200 vis. No. 6 color	18.50	18.50	18.50
PALE ENGINE OILS (Vis. 100°)			
230 vis. No. 3¾ color	24.00	24.00	24.00
180 vis. No. 3¼ color	20.00	20.00	20.00
100 vis. No. 2½ color	15.75	15.75	15.75
MOTOR OILS (Vis. 100°)			
600 vis. No. 7 color	35.00	35.00	35.00
500 vis. No. 6½ color	33.00	33.00	33.00
400 vis. No. 7½ color	31.00	31.00	31.00
300 vis. No. 6 color	30.00	30.00	30.00
200 vis. No. 3¼ color	24.00	24.00	24.00
MEDICINAL OILS			
875-885 s.g.	$0.80	$0.80	$0.80
865-870 s.g.	$0.70	$0.70	$0.70

WAXES (In cents per pound, f.a.s. carload lots)

WHITE CRUDE SCALE (In barrels)

	Jan. 9	Jan. 3	Dec. 27
122-124 A.m.p.	3.00 – 3.125	2.75 – 3.00	2.75 – 3.00
124-126 A.m.p.	3.00 – 3.125	2.75 – 3.00	2.75 – 3.00
FULLY REFINED (In burlap bags)			
123-125 A.m.p. Phila.	3.75 – 3.875	3.75	3.70 – 3.75
125-127 A.m.p.	3.75 – 3.875	3.75	3.70 – 3.75
128-130 A.m.p.	4.00	4.00	3.875– 4.00
130-132 A.m.p.	4.25 – 4.50	4.50	4.50
133-135 A.m.p.	5.00	*5.00 – 5.50	*5.50
135-137 A.m.p.	5.25 – 5.50	*5.75 – 6.00	*5.75 – 6.00
YELLOW CRUDE SCALE			
124-126 A.m.p.	2.625	2.625	2.625

***Prices nominal.**

Gulf Export Market

(F.O.B. Gulf oil terminals in Texas and Louisiana, shipments of 20,000 bbls. and over, except where otherwise noted.)

GASOLINE	Jan. 9	Jan. 3	Dec. 27
U. S. Motor	7.25	7.25	7.00 – 7.25
60-62, 400 e.p.	*8.00	*8.00	*8.00
61-63, 390 e.p.	8.25	8.25	8.25
64-66, 375 e.p.	8.50	8.50	8.50
U. S. Motor, cases (cargoes)	$1.65	$1.65	$1.60
64-66, cases (cargoes)	$1.80	$1.80	$1.75

***Nominal.**

KEROSENE			
44 water white	7.00	7.00	7.00
41-43 prime white	6.00	6.00	6.00
Water white, cases (cargoes)	$1.60	$1.60	$1.60
Prime white, cases (cargoes)	$1.50	$1.50	$1.50
DOMESTIC GAS & BUNKER OILS			
*26-28 gas oil	4.25	4.125– 4.25	4.125– 4.25
*30-32 gas oil	4.25	4.25	4.25
Grade C bunker oil	$1.15 –$1.20	$1.20 –$1.25	$1.20 –$1.25
Grade C bunker oil, cargoes	$0.95 –$1.00	$1.00	$1.00 –$1.05

***Translucent thru neck of 4 oz. bottle.**

MEXICAN CRUDE AND BUNKER OILS (F.O.B. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid	$1.10	$1.10 –$1.12	$1.10 –$1.12
Grade C bunker oil, for bunkering purposes, taxes paid	$1.35	$1.35	$1.35

SOUTH TEXAS LUBRICATING OILS (Viscosity at 100° F.; cold test 0)
(Tanker, f.o.b. Houston)

100 vis. No. 2 unfiltered pale	6.00	6.00	6.00
200 vis. No. 3 unfiltered pale	7.50 – 8.00	8.00 – 8.50	8.00 – 8.50
300 vis. No. 3 unfiltered pale	8.875– 9.25	9.00 – 9.50	9.00 – 9.50
500 vis. No. 3 unfiltered pale	11.00 –11.25	10.50 –11.00	10.50 –11.00
200 vis. No. 5¾ red oil	6.75 – 7.25	7.00 – 7.50	7.00 – 7.50
300 vis. No. 5½ red oil	8.00 – 8.50	8.25 – 8.50	8.25 – 8.50
500 vis. No. 6 red oil	9.00 – 9.50	9.00 – 9.75	9.00 – 9.75

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	Jan. 9	Jan. 3	Dec. 27
Gasoline, U. S Motor, 53-55 Gravity	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
Gasoline, U. S. Motor, blends and special cuts	7.00 – 8.00	7.00 – 8.00	7.00 – 8.00
Gas Oil, 30-34, per barrel	$1.05 –$1.10	$1.05 –$1.10	$1.05 –$1.10
Diesel Oil, 27 plus, per barrel	$0.95 –$1.05	$0.95 –$1.05	$0.95 –$1.05
Bunker oil, 14-18, per barrel	$0.80 –$1.00	$0.80 –$1.00	$0.80 –$1.00
Fuel oil, 14-18, per barrel	$0.75 –$1.00	$0.75 –$1.00	$0.75 –$1.00
Kerosene, 38-40 w.w., 125-150 flash, per gal.	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
Cased Goods			
Gasoline, U. S. Motor	$1.65 –$1.75	$1.65 –$1.75	$1.70 –$1.80
Kerosene, 38-40 w.w., 125-150 flash	$1.30 –$1.45	$1.30 –$1.45	$1.35 –$1.50

Crude Oil Prices, as Posted by Major

(Crude prices for years 1924-1925-1926 in

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District) $2.80
Bradford District Oil in National Transit Lines (Bradford District) 2.80
Penna. Grade Oil in National Transit Lines (Other Pennsylvania) 2.65
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania) 2.65
Penna. Grade Oil in Eureka Pipe Lines (West Virginia) 2.60
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district) 2.35
Keister Grade in National Transit Lines (Butler Co.) 1.10
Cabell Grade in Eureka Pipe Lines (West Virginia) 1.50
Corning Grade in Buckeye Pipe Lines (Ohio) 1.55
Corning, O. heavy grade 1.45
*Somerset Oil in Cumberland Pipe Lines (Kentucky) 1.60
Ragland Grade in Cumberland Pipe Lines (Kentucky) ..... .95

*Somerset oil run prior to Oct. 1922, takes price of 6 cents lower than above quotations.

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines $1.50

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective March 14, 1927

Wooster	$1.57	Plymouth	$1.33
Lima	1.71	West. Kentucky	1.33
Waterloo	1.20	*Canadian Petro.	2.11
Indiana	1.48	*Oil Springs	2.18
Princeton	1.60	*Posted by Imperial Oil Ltd.	
Illinois	1.60		

OKLAHOMA, KANSAS And NORTH TEXAS

Prices of Prairie Oil & Gas Co.

(In Oklahoma, Kansas, North and East Central Texas)

Effective March 12, 1927

28-28.9	$1.12	35-35.9	$1.26
29-29.9	1.14	36-36.9	1.28
30-30.9	1.16	37-37.9	1.30
31-31.9	1.18	38-38.9	1.32
32-32.9	1.20	39-39.9	1.34
33-33.9	1.22	40-40.9	1.36
34-34.9	1.24	41-41.9	1.38
42-42.9	$1.40	48-48.9	$1.52
43-43.9	1.42	49-49.9	1.54
44-44.9	1.44	50-50.9	1.56
45-45.9	1.46	51-51.9	1.58
46-46.9	1.48	52 and above	1.60
47-47.9	1.50		

Above schedule met on March 12, by Gulf, Mid-Continent Pet. Corp., and Empire; by Carter, Humble and The Texas Co. on March 14.

Humble Oil & Refining Co. Prices
(Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

March 14, same schedule as Prairie in above fields, except these grades posted Nov. 16:

Below 25	$0.90	26-26.9	$1.08
25-25.9	1.06	27-27.9	1.10
Mirando, Tex.			$1.00

Magnolia Petroleum Co.
(In Oklahoma, Kansas and North and East Central Texas)

Effective Sept. 14, Magnolia posted same price schedule as Prairie in above fields, in Panola Co. and Iatan, Tex. district, except that Magnolia is paying $1.05 for all oil below 30 gravity.

Glasscock County $0.80
Corsicana heavy $1.00

Carter Oil Co.
(Oklahoma and Kansas)

March 14, same schedule as Prairie.

PANHANDLE, TEXAS
Humble Oil & Refining Co.

Effective Aug. 23

Hutchinson, Carson and Wheeler Counties..$0.75
Pampa, Gray County, Effective March 14:

28-28.9	$ .80	37-37.9	$ .98
29-29.9	.82	38-38.9	1.00
30-30.9	.84	39-39.9	1.02
31-31.9	.86	40-40.9	1.04
32-32.9	.88	41-41.9	1.06
33-33.9	.90	42-42.9	1.08
34-34.9	.92	43-43.9	1.10
35-35.9	.94	44 and above	1.12
36-36.9	.96		

WEST TEXAS
Humble Oil & Refining Co.

Effective Aug. 23

Crane, Upton, Crockett and Pecos Counties...$0.60

NORTH LOUISIANA — ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana
Caddo, Homer, Haynesville, Bull Bayou, El Dorado, Crichton and De Soto

Effective March 14, 1927

Below 28	$1.10	40-40.9	$1.36
28-28.9	1.12	41-41.9	1.38
29-29.9	1.14	42-42.9	1.40
30-30.9	1.16	43-43.9	1.42
31-31.9	1.18	44-44.9	1.44
32-32.9	1.20	45-45.9	1.46
33-33.9	1.22	46-46.9	1.48
34-34.9	1.24	47-47.9	1.50
35-35.9	1.26	48-48.9	1.52
36-36.9	1.28	49-49.9	1.54
37-37.9	1.30	50-50.9	1.56
38-38.9	1.32	51-51.9	1.58
39-39.9	1.34	52 and above	1.60

*Smackover, below 24	$0.85
* do 24 and above	1.00
Bellevue	1.25
Cotton Valley	.85
**Urania, La.	.75
†East El Dorado	1.00

**Posted by Louisiana Oil Refining Corp.

†Posted by Magnolia Petroleum Co.

*Smackover prices posted on Nov. 21 by S. O La., Gulf, Shreveport-El Dorado Pipe Line, Atlantic Oil Producing Co. and Magnolia Pet Co.; on Nov 19 by La. Oil Refg. Corp.; on Nov. 23 by The Texas Co.

STEPHENS, ARKANSAS

Atlantic Oil Producing Co. and Louisiana Oil Refining Corp.

Below 28	$1.00	30-30.9	$1.06
28-28.9	1.02	31-31.9	1.08
29-29.9	1.04	32 and above	1.10

GULF COASTAL

Posted by Humble Oil & Refining Co.

Effective March 14

Grades A	$1.20	29-29.9	$1.25
Grades B:		30-30.9	1.27
Below 25	1.15	31-31.9	1.29
25-25.9	1.17	32-32.9	1.31
26-26.9	1.19	33-33.9	1.33
27-27.9	1.21	34-34.9	1.35
28-28.9	1.23	35 and above	1.37

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling and Pierce Junction. All other fields are Grades A only.

New Rates From Mid-Continent Ordered In by March 2

Staff Special

TULSA, Jan. 9

THE final effective date for new refined oil rates from the Mid-Continent field to parts of the marketing territory of the Standard Oil Co. of Indiana, has been postponed from Feb. 15 to March 2. On application of the railroads the Interstate Commerce Commission has granted the latest postponement of the rates fixed in the famous Mid-Continent Oil Rate case of 1925.

It is understood that the carriers asked the Commission for permission to wait until April 15 before putting the new rates into effect. The extension of only 16 days is taken as an indication that the Commission will permit no more delays in the rates which were to have been put into effect originally about a year and a half ago.

The rates involved are those on refined products from the Mid-Continent field to points on the Mississippi river at Davenport, Ia., and south to St. Louis and to points in Standard of Indiana marketing territory beyond where traffic moves through the Davenport to St. Louis river crossings. Under the Commission's decision the railroads are permitted to increase Group 3 rates and central Kansas rates to give Southeastern Kansas refiners a differential.

Since the case was finally decided by the Commission efforts have been made by Oklahoma and Central Kansas interests to show the railroads that it will be to their advantage to create the differential by reducing the Southeastern Kansas rates rather than by raising the Oklahoma and Central Kansas rates. The proposed increase has been looked on as a very serious blow to Group 3 refining interests because of the additional margin it would allow Mississippi river refiners.

No indication has been given out by the railroads as to what they propose to do. The request for another postponement of the effective date is considered as favorable in some quarters. Central Freight Association railroads operating east of the Mississippi river apparently fear a reduction in Group 2 rates rather than an increase in Group 3 since a recent brief filed by their attorneys with the Interstate Commerce Commission predicted that the Southwestern lines would not raise Oklahoma oil rates and demanded that the Commission fix minimum as well as maximum rates in the general investigation of

Purchasers, in All Fields (in Effect January 9)

OIL PRICE HANDBOOK published annually)

GULF COASTAL

Prices of The Texas Co.

(Effective March 14)

Grades A	$1.20	*Grades B	$1.15
‡Grades B (light crude):			
35-35.9	$1.37	38-38.9	$1.43
36-36.9	1.39	39-39.9	1.45
37-37.9	1.41	40 and above	1.47

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

‡The Texas Co.'s gravity and price schedule on oil below 35° is same as Humble's postings on Grades B.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co. and Midwest Refining Co.

(Salt Creek prices effective March 12)

‡Salt Creek	29-29.9	$1.14
" "	30-30.9	1.16
" "	31-31.9	1.18
" "	32-32.9	1.20
" "	33-33.9	1.22
" "	34-34.9	1.24
" "	35-35.9	1.26
" "	36-36.9	1.28
" "	37 and above	1.30
Elk Basin		1.33
Grass Creek light		1.33
Big Muddy		$1.25
Lance Creek		1.33
Rock Creek		1.25
Mule Creek		1.30
Rex Lake		1.10
‡Osage		1.33
‡Cat Creek, Mont.		1.33
Sunburst, Mont.		1.35
‡Hogback, N. Mex.		1.38
Artesia, N. Mex.		1.00

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

The Texas Co. buys Salt Creek and Big Muddy crude.

CALIFORNIA

Standard Oil Co. of California

Santa Maria and Ventura Posted by Union Oil Co.

Gravity	Signal Hill Seal Beach Huntington Beach	Inglewood Torrance	Whittier La Habra	Newhall, McKittrick, Kern River	Olinda-Brea Canon, Richfield	Athens-Rosecrans Dominguez	Montebello	Coyote Hills	Santa Fe Springs	Midway Sunset Buena Vista & Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria	Ventura
14-14.9	$ .85	$ .85	$ .85	$ .75	$ .85	....	$ .85	$ .85	....	$ .75	$ .75	$ .75	$ .75	$ .85	$ .85
15-15.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
16-16.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
17-17.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
18-18.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
19-19.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
20-20.9	.85	.85	.85	....	.85	....	.85	.85	....	.77	.77	.76	.76	.85	.85
21-21.9	.86	.86	.85	....	.86	....	.85	.86	.85	.79	.79	.77	.77	.85	.85
22-22.9	.87	.87	.85	....	.87	....	.85	.87	.85	.81	.81	.78	.78	.85	.85
23-23.9	.88	.88	....	....	.88	....	.85	.88	.85	.83	.83	.79	.79	.85	.85
24-24.9	.89	.89	....	....	.89	$ .89	.85	.89	.85	$ .85	.85	.80	.80	.85	.85
25-25.9	.90	.90	....	....	.90	.90	.86	.90	.86	.87	.87	.81	.81	.86	.86
26-26.9	.92	.92	....	....	.92	.92	.87	.91	.87	.89	.89	.83	.82	.87	.87
27-27.9	.94	.94	....	....	.94	.94	.88	.92	.88	.91	.91	.85	.83	.88	.88
28-28.9	.96	.96	....	....	.96	.96	.89	.93	.89	.93	.93	.87	....	.89	.89
29-29.9	.98	....	....	....	.98	.98	.90	.94	.91	.96	.96	.89	....	.91	.91
30-30.9	1.00	....	....	....	1.00	1.00	.91	.95	.93	.99	.99	.91	....	.93	.93
31-31.9	1.03	....	....	....	....	1.03	....	....	.95	1.02	1.02	.93	....	....	.95
32-32.9	1.06	....	....	....	....	1.06	....	....	.97	1.05	1.05	.95	....	....	.97
33-33.9	....	....	....	....	....	1.09	....	....	.99	1.08	1.08	.97	....	....	.99
34-34.9	....	....	....	....	....	1.12	....	....	1.01	....	1.11	.99	....	....	1.01
35-35.9	....	....	....	....	....	1.15	....	....	1.03	....	....	1.01	....	....	1.03
36-36.9	....	....	....	....	....	1.18	....	....	1.06	....	....	....	....	....	1.06
37-37.9	....	....	....	....	....	1.21	....	....	1.09	....	....	....	....	....	1.09
38-38.9	....	....	....	....	....	1.24	....	....	1.12	....	....	....	....	....	1.12
39-39.9	....	....	....	....	....	1.27	....	....	1.15	....	....	....	....	....	1.15
40-40.9	....	....	....	....	....	1.30	....	....	....	....	....	....	....	....	....
41-41.9	....	....	....	....	....	1.33	....	....	....	....	....	....	....	....	....
42-42.9	....	....	....	....	....	1.36	....	....	....	....	....	....	....	....	....

*Union Oil Co. also purchases Long Beach Crude and is maintaining the same gravity and price schedule in that field as the Standard maintains in Signal Hill and Huntington Beach fields. The Union also buys and pays the same prices as the Standard in the Rosecrans-Dominguez fields, on gravities ranging from 14 degrees to and including 24.9 degrees and in Santa Fe Springs, on gravities ranging from 20 to and including 23.9 degrees.

oil rates now under consideration.

It is believed generally here that if the Oklahoma rates are not advanced that the Central Freight Association lines will make a new complaint to the Commission demanding a reopening of the case and the establishment of minimum rates at least to destination points which will affect their revenues.

California Gasoline Improves

Staff Special

LOS ANGELES, Jan. 7.—Gasolines continue to improve and most of the export quotations now range from 6.25 cents up, although some gasoline, U. S. Motor grade, can still be bought at 6 cents. Gasoline in tank cars is same as former quotations with some small refiners asking 8 to 8.50 cents for out of state movement, while shipments to points within the state are still higher.

Fuel oil stocks are growing each month. To compete on East coast, refiners must sell at 60 to 65 cents and they refuse to accept offers at hand. Refiners contend that 75 cents is low enough. They point out that they have ample storage space for their surplus.

Gas oil continues at $1.05 to $1.10.

There are no changes in kerosene or natural gasoline.

* * *

Los Angeles Shipments

LOS ANGELES, Jan. 6.—Eighteen tankers left Los Angeles harbor in week ended Dec. 31, to points outside of Pacific coast trade territory carrying 1,199,674 barrels of crude and other petroleum products or a daily average of 171,382 barrels. This shows an increase over the previous week, of more than 378,000 barrels, when compared with a total of 821,654 barrels or a daily average of 117,379 barrels.

Total movement included 432,121 barrels of crude, 473,053 barrels of fuel, 167,023 barrels of gasoline, 71,340 barrels of gas oil and 56,137 barrels of Diesel. Atlantic domestic points drew 428,874 barrels of crude, 101,000 barrels of gasoline and 71,340 barrels of gas oil. Products going to Pacific foreign included 402,840 barrels of fuel, 3,247 barrels of crude, 66,023 barrels of gasoline and 56,137 barrels of Diesel. Remainder of total movement went to Atlantic foreign.

Contracts Produce Parking Space

RICHMOND, Va., Jan. 9.—A 2,000 to 3,000 auto parking area is being built here by an agreement between the Retail Merchants' Association and the South Atlantic Oil Company, whereby the company is providing the parking area with facilities and service, in consideration of the merchants delivering to the company contracts for 25,000 gallons of oil and gasoline a month. The committee which is working on the project reports that this goal has very nearly been reached.

OIL STOCKS AND FINANCES

National Petroleum News

Houston Most Spectacular Oil Stock On N. Y. Exchange in 1927

CLEVELAND Jan. 9

STOCK of the Houston Oil Co. was the most spectacular actor among the oil shares listed on the New York Stock Exchange in 1927. Houston Oil made a phenomenal gain in a year when the strongest companies barely maintained their market prices and stock of many companies suffered heavy losses in their market valuations.

Houston Oil rose from a low of 60⅛ Jan. 11 to a high of 175¾ Oct. 6 and closed the year at 156⅛, a net gain of 94¾ points. The market value of Houston's $25,000,000 common stock increased $23,687,500, this figure being based on the net gain. Oct. 6 the stock was worth $28,906,250 more than it was worth Jan. 11 when it was at its low point for the year.

The next largest gain in the oil list was the American Republics Corp., the J. S. Cullinan holding company. This company's earnings do not represent income solely from the oil business directly but indirectly it derives considerable income from tank car, tank and other supply subsidiaries. American Republics gain was 33⅞ points. It reached a peak of 82½ Dec. 23, and its close Dec. 31 at 74⅜ was more than double its low of 35⅛ Jan. 4. Perhaps a large part of American Republics improved value is due to tank car earnings. No definite information on this point has been given out.

The next largest gain in stock valuation made last year by companies affiliated with the oil industry was that of the Union Tank Car Co., the former Standard Oil subsidiary which still transports almost all products of the various Standard Oil companies. UTLX, as the company cars are lettered, rose from a low of 94 for the $100 stock Jan. 3 to 127½ Dec. 19, and its close at 126½ Dec. 31 was a net gain 32½ points over the year.

Among the other stocks listed Lago Oil & Transport Co., controlled by the Standard Oil Co. of Indiana through the Pan Amercian Petroleum & Transport Co., made the largest gain, 12⅝ points. Panhandle Producing & Refining preferred netted 5¼ points; Producers & Refiners common 7⅜ and the preferred 5½; Simms Petroleum Co. 3¼; Sinclair Consolidated Oil Corp. preferred 5 points, and Transcontinental Oil Co. 4⅛ points.

The Standard of New Jersey gained one point over the year but other Standard companies suffered losses in valuation, the largest being 6½ points by the Atlantic Refining Co. Stock of the Atlantic rose mid-summer to a high of 131⅜ largely because of speculative operations in the stock market but its earnings statement for the first half year, issued late in August, deflated its market price and it fell to 104 Dec. 9. It closed the year at 107½.

Stocks of California companies all receded. Associated was off 7¼. California Petroleum lost 6¼; Standard 2⅝; Union 12⅝, and Pan American Western B, 16⅝. The Standard of New York which owns General Petroleum was off 1⅞ points but it has operations in the east and Mid-Continent which influence its earnings more than its California operations.

The Standard of Indiana controlled Pan American Petroleum & Transport common which lost 20 points and

(*Continued on Page* 111)

Ranges of Prices of Oil Shares on New York Stock Exchange in 1927

Stock	Total Sales	High	Date	Low	Date	Last	Ch'ge over Year
Amerada Corp.	603,100	37⅞	Feb. 7	27⅝	Apr. 28	30⅛	— 1⅞
American Republics	649,200	82½	Dec. 23	35⅛	Jan. 4	74⅜	+33⅞
Associated Oil	5,700	50¼	Feb. 19	35	Oct. 20	41⅞	— 7¼
Atlantic Refining	1,054,500	131⅜	Aug. 5	104	Dec. 9	107½	— 6½
do pfd.	8,900	119	Aug. 20	115½	Feb. 1	117	+ ¾
Barnsdall Corp A	2,475,070	35½	Feb. 26	20¾	Oct. 6	25⅛	— 2⅝
do B	131,950	32½	Feb. 28	20½	Oct. 7	24¾	— ⅝
California Petroleum	870,650	32⅞	Jan. 18	20	Oct. 11	24¾	— 6¼
General Asphalt	2,441,800	96¾	Mar. 2	65	Aug. 27	81¼	— 6½
do pfd.	34,720	144⅞	Mar. 2	107¼	Aug. 27	124½	—11½
Houston Oil	5,703,600	175¾	Oct. 6	60⅛	Jan 11	156⅛	+94¾
Indep. Oil & Gas	860,000	32¾	Feb. 1	17⅝	May 20	25½	— 4⅛
Indian Refining	231,400	12⅛	Sept. 8	7⅝	Jan. 29	9⅛	+ 1¼
do ctfs.	267,622	12	Sept. 8	7¼	June 20	8½	+ ½
do pfd.	8,500	112	Mar. 11	99	Oct. 18	103	+ 7
Lago Oil & Transport	748,000	37¾	Nov. 15	20½	Jan. 13	34⅞	+12⅝
Louisiana Oil Refg.	1,329,600	18⅛	Jan. 5	10	Oct. 29	10½	— 6½
do pfd.	11,430	97	Feb. 5	85¼	Dec. 5	90¾	— 5¼
Maracaibo Oil Ex.	126,900	22⅜	Jan. 18	12	Oct. 4	16	— 2½
Marland Oil	3,876,900	58½	Jan. 17	31	June 27	35	—22½
Mexican Petroleum	560	320	Dec. 30	200	Apr. 26	320	.....
do pfd.	.....	.....	.....	.....	.....	.....	.....
Mexican Seaboard	164,600	9¼	Feb. 16	3	Aug. 23	5	— 2½
Mid-Cont. Pet.	1,475,000	39⅜	Jan. 21	25½	Oct. 10	29¼	— 6
do pfd.	9,500	105	Feb. 3	97	Apr. 28	104½	+ 1½
Middle States Oil	1,095,900	3¾	June 23	1⅝	Jan. 3	2¼	+ ⅝
do ctfs.	136,200	2¾	June 23	1⅛	Jan. 25	1¼	+ ⅜
Pacific Oil stubs	222,900	1⅞	June 7	1	May 25	1¼	— ½
Pan American P & T.	335,875	65⅞	Jan. 19	40⅛	Dec. 21	43⅝	—20
do B	2,938,500	66⅜	Jan. 20	40¼	Dec. 20	43⅞	—20⅛
Pan American West B	277,800	37⅞	Jan. 24	16¾	Oct. 8	19⅝	—16⅝
Panhandle P & R.	372,700	18⅞	Jan. 17	8	Apr. 29	16	+ 1½
do pfd.	12,800	83	Nov. 16	54	Sept. 8	80¼	+ 5¼
Phillips Oil	5,838,100	60¼	Feb. 16	36¼	Oct. 8	40½	—15¼
Pierce Oil	196,400	1⅛	June 22	½	Mar. 25	⅝	— ⅛
do pfd.	23,300	24	June 21	13½	Mar. 24	19	+ 4
Pierce Petroleum	483,300	5½	June 20	2½	Mar. 22	3	+ ⅜
Producers & Refiners	1,279,000	33⅞	May 16	16¾	Jan. 5	25	+ 7¾
do pfd.	32,820	50	Feb. 9	36⅞	Jan. 6	42½	+ 5½
Pure Oil	1,865,800	33½	Mar. 4	25	Oct. 15	25⅞	— 1½
do 8% pfd.	7,200	115½	Dec. 7	111¾	Jan. 11	112¼	0
Royal Dutch	155,350	54½	Feb. 9	44¼	July 27	47⅝	— 5⅛
Shell Transport	16,100	47⅞	Feb. 10	41⅜	Oct. 10	43⅛	— 1⅞
Shell Union Oil	683,500	31¾	Feb. 7	24⅝	Oct. 21	25½	— 3½
Simms Petroleum	618,400	26⅜	Dec. 19	14¼	July 16	23⅝	+ 3¼
Sinclair Consolidated	2,398,600	22⅜	Jan. 20	15	Oct. 29	20⅞	+ 1⅜
do pfd.	39,900	104½	Dec. 19	97	Jan. 6	102½	+ 5
Skelly Oil	753,600	37⅜	Feb. 21	24⅛	June 27	27½	— 8
S. O. California	1,106,700	60⅜	June 19	50⅜	Apr. 28	55½	— 2⅝
S. O. New Jersey	2,528,500	41⅜	Feb. 5	35⅛	Apr. 29	39¾	+1
S. O. New York	1,357,330	34⅛	Jan. 18	29¾	June 27	31⅛	— 1⅞
Sun Oil	105,600	34⅞	Jan. 17	30	Mar. 21	31½	0
do pfd.	5,300	101⅝	Dec. 9	99	Aug. 11	100¼	.....
Superior Oil	389,000	6½	Feb. 18	3⅛	Dec. 16	3½	— 1⅜
The Texas Corp.	1,517,700	58	Jan. 17	45	Apr. 19	54	+ 1
Texas Pacific C & O.	720,000	18⅞	June 8	12	May 2	14¼	— ⅜
Tide Water Oil	84,900	29⅛	Jan. 13	19	July 25	22⅞	— 4⅛
do 5½% pfd.	38,300	90⅛	Sept. 12	85	Nov. 19	86½	— 2⅜
Tide Water Assoc.	661,900	19⅛	June 9	15⅜	Oct. 13	17¼	.....
do pfd.	43,000	90¾	June 1	85	Oct. 5	86½	.....
Transcontinental Oil	4,899,100	10¾	Nov. 17	3¾	Apr. 30	8¾	+ 4⅛
Union Oil of Calif.	729,600	56½	Jan.	39⅝	Apr. 18	43⅜	—12⅝
Union Tank Car	59,000	127½	Dec. 19	94	Jan. 3	126½	+32½
Warner Quinlan	219,800	34½	Dec. 10	24½	Aug. 23	31¼	.....
White Eagle Oil	92,200	27½	Feb. 15	20	Dec. 30	20¼	— 6

Stocks Stricken from List in 1927

Shell Union pfd.	4,200	111	Apr. 18	107½	Jan. 27	111	+ 3
S. O. New Jersey pfd.	41,377	116¼	Feb. 11	114⅝	Feb. 25	114¾	— 1⅛

Transactions in Oil Shares on New York Stock Exchange

1926 High	1926 Low	1927 High	1927 Low		Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended Jan. 7 Sales	First	High	Low	Last	Change
32⅛	24¼	37⅝	27⅝	(sh)	916,675	N.P.	Amerada Corp.	50cQ	Oct. 30, 27	18,100	30½	32⅝	30⅛	31⅛	+ 1
74	39⅞	79⅛	35⅛	(sh)	209,180	N.P.	American Republics	.....	.....	24,300	74⅝	76½	68	72½	— 1⅞
59⅛	44¾	50¼	38⅝	$	56,000,000	$25	Associated Oil	50cQ	Dec. 24, 27	30,000	39¾	41¾	38⅝	41	— ⅞
128¾	97	131¾	105¼		50,000,000	100	Atlantic Refining	$1Q	Dec. 15, 27	12,000	107½	109⅞	106⅛	107½	0
120	115½	118½	111½		20,000,000	100	do pfd.	$1.75Q	Nov. 1, 27	500	117	118¼	117	117½	+ ½
33⅛	23½	35½	20¾		25,000,000	25	Barnsdall Corp. A.	s62½cQ	Nov. 15, 27	83,100	25	25¼	24⅝	25¼	+ ⅛
29½	22½	32½	20½		3,842,400	25	do B.	s62½cQ	Nov. 15, 27	.....	.....	.....	.....	.....	.....
68½	29¾	32¾	20		51,523,950	25	California Petroleum	25cQ	Dec. 1, 27	34,400	24⅝	26¾	24	26⅜	+ 1⅜
94¼	50	96¾	65		24,355,000	100	General Asphalt	.....	.....	143,900	81¾	92⅜	81	92¼	+11
140¾	94½	144⅝	107¼		6,874,200	100	do pfd.	$1.25Q	Dec. 1, 27	1,400	128	140¼	126	140¼	+15¾
72	50¼	175⅝	60½		25,000,000	100	Houston Oil	.....	.....	31,100	155	156⅛	148¼	151½	— 4⅝
84	19⅝	32¾	17⅝	(sh)	500,000	N.P.	Independent Oil & Gas	25cQ	Oct. 31, 27	7,400	25¼	26½	25⅛	26¼	+ ¾
13¾	7¼	12⅛	7⅛	$	3,280,340	$10	Indian Refining	.....	Dec. 15, 20	11,400	9⅜	10⅞	9⅜	10⅞	+ 1⅜
12½	8	12	7¾		4,550,110	10	do ctfs.	.....	.....	2,200	8⅞	9⅜	8⅞	9⅛	+ 1
104	90	112	99		2,296,400	100	do pfd.	.....	Dec. 15, 21	500	101	102½	101	102½	— ½
24⅛	19⅛	36⅛	20⅛	(sh)	3,992,067	N.P.	Lago Oil & Transport	75cQ	Nov. 1, 27	4,600	33¾	34¾	33¾	35	+ ⅞
19¼	12	18¼	10	(sh)	1,131,290	N.P.	Louisiana Oil Refining	.....	.....	27,700	10½	12½	10½	12½	+ 2
98	93	97	85¼	$	4,000,000	$100	do pfd.	$1½Q	Nov. 15, 27	80	90¾	91	90¾	91	+ ¾
28⅛	16½	22¾	12	(sh)	330,000	N.P.	Maracaibo Oil	.....	.....	1,800	16	16½	15¾	16	0
63¾	49¼	58½	31	(sh)	2,316,401	N.P.	Marland Oil Co.	.....	Mar. 31, 27	38,700	35¾	36¾	34⅝	36	+ 1
250	225	320	200	$	45,942,800	$100	Mexican Petroleum	$3Q	Oct. 20,	350	330	360	320	325	+ 5
...	...	...	...		12,000,000	100	do pfd.	$2Q	Oct. 20, 27	.....	.....	.....	.....	.....	.....
13¾	6	9¼	3	(sh)	945,839	N.P.	Mexican Seaboard	.....	Nov. 15, 24	5,500	5	5⅜	5	5¼	+ ⅛
37	27½	39⅝	25⅛	(sh)	1,357,800	N.P.	Mid-Continent Petroleum	.....	Aug. 1, 27	8,300	29⅜	29½	28½	28⅝	— ⅛
104¼	90	105	97	$	6,718,000	$100	do pfd.	$1.75Q	Dec. 1, 27	.....	.....	.....	.....	.....	.....
2½	¾	3¾	1⅝		24,435,000	10	Middle States	.....	July 1, 23	127,800	2⅜	3⅝	2⅜	3	+ ¾
1½	½	2¾	1⅜		5,356,660	...	do ctfs.	.....	.....	6,800	1½	2¾	1½	2	+ ¾
2¼	1	1⅞	1	(sh)	3,500,000	N.P.	Pacific Oil	.....	.....	5,800	1¾	1⅜	1¼	1¼	0
76½	56½	65⅞	40½	$	48,807,500	$ 50	Pan American P. & T.	$1Q	Oct. 20, 27	8,600	43¼	46⅜	43⅛	45½	+ 1⅞
78¾	56⅞	66⅜	40½		121,094,850	50	do B.	$1Q	Oct. 20, 27	72,500	44⅜	46⅜	42¾	45	+ 1⅛
46	30	37⅞	16¾	(sh)	400,000	N.P.	Pan American Western B.	.....	Jan. 30, 27	1,100	20	20½	19¾	20¾	+ ⅝
62	4½	18⅞	8	(sh)	198,770	N.P.	Panhandle P. & R.	.....	.....	1,500	15⅞	16½	15½	16	0
99¾	51	83¾	58¾	$	2,935,200	$100	do pfd.	.....	July 2, 23	200	81	81	79½	79½	— ¾
57⅛	40	60¾	36½	(sh)	2,406,796	N.P.	Phillips Petroleum	75cQ	Jan. 3, 28	54,400	41	42⅛	40½	41½	+ 1
1⅞	½	1⅜	½	$	29,622,925	$ 25	Pierce Oil Corp.	.....	.....	1,700	⅝	¾	⅝	⅝	0
27⅜	11⅛	24	13½		15,000,000	100	do pfd.	.....	Feb. 1, 22	.....	.....	.....	.....	.....	.....
7	2¼	5½	2½	(sh)	2,500,000	N.P.	Pierce Petroleum	.....	.....	14,200	4⅛	4⅝	3⅞	4½	+ ⅝
20¾	11	33¾	16½	1	37,450,850	$50	Producers & Refiners	.....	Sept. 15, 23	3,400	25	25¼	24½	25⅛	+ ⅛
41¾	30¾	50	36⅛		2,845,350	50	do pfd.	.....	May 1, 25	50	41¾	42½	41⅞	42½	0
31	25¼	33½	25		75,939,250	25	Pure Oil Co.	37½cQ	Dec. 1, 27	50,600	26	27½	26	27	+ 1¼
112¾	106	115½	111¾		13,000,000	100	do 8% pfd.	$2Q	Jan. 2, 28	.....	.....	.....	.....	.....	.....
57¾	47¾	58	45	(sh)	616,605	13.40	Royal Dutch, N. Y. shares	$1.80	Aug. 2, 27	1,400	48	48	47¾	48	+ ⅜
40¾	40½	47¾	41¾	(sh)	78,389	F2	Shell Transport & T.	$1.45	July 22, 27	.....	.....	.....	.....	.....	.....
31	24	31¾	24¾	(sh)	10,000,000	N.P.	Shell Union Oil	35cQ	Dec. 31, 27	20,200	25⅞	26¼	25½	26⅛	+ ⅝
114	103	111	107½	$	18,350,400	$100	do pfd.	$1½Q	Nov. 15, 27	.....	.....	.....	.....	.....	.....
28⅝	15⅜	25¼	14¾		7,208,080	10	Simms Petroleum	.....	Apr. 1, 27	7,500	23⅞	24⅜	23½	24¼	+ ⅝
24⅞	16¾	22⅜	15	(sh)	4,501,339	N.P.	Sinclair Consolidated	.....	May 31, 24	44,200	20⅞	21¼	20¼	20½	— ⅜
99½	90	104½	97	$	16,907,000	$100	do pfd.	$2Q	Nov. 15, 27	400	102½	103	102½	103	+ ½
37¼	26⅝	37⅝	24½		27,396,590	25	Skelly Oil Co.	50cQ	Dec. 15, 27	8,800	27⅛	27½	27	27⅛	— ⅛
63⅝	52⅜	60¾	50⅝	(sh)	13,016,434	N.P.	S. O. California	62½cQ	Dec. 15, 27	14,200	55⅞	56	55⅛	55½	0
46⅝	37⅜	43⅝	35⅛	$	606,243,050	$25	S. O. New Jersey	‡25cQ	Dec. 15, 27	46,000	39⅞	40¼	39½	40	+ ¼
33¼	32½	34¼	29¾		424,348,275	25	S. O. New York	40cQ	Dec. 15, 27	23,900	31¼	31⅜	31	31¼	0
41⅝	30⅛	34⅞	30	(sh)	1,171,508	N.P.	Sun Oil	‡25cQ	Dec. 15, 27	900	31⅞	32	31⅝	31⅝	+ ⅛
...	...	101⅛	99	$	5,000,000	$100	do pfd.	$1.50Q	Dec. 1, 27	100	100	100	100	100	— ¼
5¼	1	6½	3⅛	(sh)	1,121,368	N.P.	Superior Oil Corp	.....	Dec. 20, 20	6,200	3¼	3½	3¼	3⅜	— ⅛
57½	53¼	58	45	$	180,428,225	25	The Texas Corp.	75cQ	Jan. 1, 28	14,900	54⅝	54½	53	54¼	+ ¼
19½	12	18¼	12		8,380,340	10	Texas Pacific Coal & Oil	15cQ	Jan. 3, 28	10,400	14⅛	14¾	14	14¾	+ ⅝
39¾	37	29¾	19	(sh)	2,168,264	N.P.	Tide Water Oil Co.	20cQ	Dec. 31, 27	400	22	22¼	22	22⅛	— ¾
103	87¼	90¾	85	$	20,705,200	$100	do 5½ pfd.	$1.25Q	Nov. 15, 27	1,900	87	88¾	87	88¾	+ 2¼
....	....	19¼	15⅜	(sh)	4,795,934	N.P.	Tide Water Associated	.....	Aug. 1, 27	12,800	17⅛	17¼	16½	17	— ¼
....	....	90¾	85	$	72,795,900	100	do pfd.	$1.50Q	Jan. 3, 28	800	87	87¾	86¾	86¾	+ ¼
5⅛	3	10¼	3¾	(sh)	3,742,029	N.P.	Transcontinental Oil	.....	.....	31,700	8¾	9	8½	8¾	0
58¾	37¼	56½	39⅝	$	40,759,475	$25	Union Oil of California	50cQ	Nov. 10,27	13,500	44	44⅝	43¾	44½	+ 1⅛
120⅝	84¾	123½	94		30,734,000	100	Union Tank Car Co.	$1.25Q	Dec. 1, 27	1,100	124	124	122	124	— 2½
...	...	34½	24½	(sh)	240,000	N.P.	Warner Quinlan	50cQ	Jan. 3, 28	12,300	31⅞	32⅞	30⅛	32⅜	+ 1⅛
29¾	25⅜	27½	20	(sh)	490,000	N.P.	White Eagle Oil & Refining	50cQ	Oct. 20, 27	4,600	20½	23½	20½	22⅞	+ 2⅝

*New High †New Low xEx-Dividend ‡Also extras s-Stock Total Sales 1,115,180

PITTSBURGH STOCK EXCHANGE

1926 High	1926 Low	1927 High	1927 Low	Par Value	Stocks	Transactions Week Ended Jan. 6 Sales	First	High	Low	Last	Ch'ge
8½	5¾	9⅛	6⅞	$ 10	Arkansas Nat. Gas.	7,475	8⅞	9½	8⅞	9½	+ ⅝
90½	79¾	98¾	80⅞	100	Columbia Gas.	.....	.....	.....	.....	.....	.....
101⅝	95	107⅝	100	100	do pfd.	.....	.....	.....	.....	.....	.....
17	12½	15	7½	10	Devonian Oil.	44	8⅛	8⅛	8	8	+ ½
116½	112	117½	115	100	Duquesne Lt. 7% pfd.	25	115⅛	115⅛	115⅛	115⅛	+ ⅛
...	...	...	...	...	Fayette County Gas.	.....	.....	.....	.....	.....	.....
10	5⅛	12¼	6	N.P.	Houston Gulf Gas.	265	12¾	12¾	12⅝	12⅝	+ ⅝
46	39	59¼	37¼	$25	Lone Star Gas.	1,668	53¾	54	53	53¾	— ¼
47⅜	33⅛	22¾	22¼	25	Ohio Fuel Corp.	.....	.....	.....	.....	.....	.....
47½	42	21¾	21	...	do pfd.	.....	.....	.....	.....	.....	.....
6¾	5	6	5	...	Ohio Oil & Gas.	.....	.....	.....	.....	.....	.....
34	21	21	21	25	Oklahoma Nat. Gas.	.....	.....	.....	.....	.....	.....
21	19¼	23⅝	20¼	...	do ctfs.	.....	.....	.....	.....	.....	.....
5⅜	3⅛	3¾	3	5	Pittsburgh Oil & Gas	1,845	3¼	3¼	3¼	3¼	— ¼
10	7½	8	5½	10	Salt Creek Cons.	.....	.....	.....	.....	.....	.....
27	8	26½	17	10	Tidal Osage	.....	.....	.....	.....	.....	.....
45	40	43	33	N.P.	Waverly Oil Wks. "A"	.....	.....	.....	.....	.....	.....

PITTSBURGH CURB EXCHANGE

1926 High	1926 Low	1927 High	1927 Low	Par Value	Stocks	Transactions Week Ended Jan. 6 Sales	First	High	Low	Last	Ch'ge
3⅜	2½	3½	2¾	$ 5	Columbia Synd.	.....	.....	.....	.....	.....	.....
20	.06	.18	.18	5	Duquesne Light 5s pfd.		100	99	.....	.....	.....
91½	85	95	88	25	Gulf Oil Corp.	.....	.....	.....	.....	.....	.....
79	79	105	93	100	Houston Gulf Gas pfd.	.....	.....	.....	.....	.....	.....
12	7½	10¾	5⅛	N.P.	Leonard Oil & Dev.	.....	.....	.....	.....	.....	.....
30¼	29	32	31¼	$ 25	Oklahoma Gas.	.....	.....	.....	.....	.....	.....
2	.15	2.70	.30	10	Omar Oil & Gas.	11,500	.50c	$1	.50c	$1	+50c
....	....	9⅛	9⅛	....	Penn. Oil & Gas.	.....	.....	.....	.....	.....	.....
....	....	2¼	1¾	....	Pittsburgh Oil Dev.	.....	.....	.....	.....	.....	.....
2	1¾	2¼	2¼	5	do pfd.	.....	.....	.....	.....	.....	.....
33½	20	31	19	5	Plymouth Oil.	960	20	21	20	20⅞	+ ¾
7	3	6	5	5	States Oil.	.....	.....	.....	.....	.....	.....
3½	2	3⅛	1½	1	Texon Oil & Land.	12,345	3	3⅛	3	3⅛	+ ⅛
25⅜	8	23¾	18	10	Tidal Osage (non-vtg).	.....	.....	.....	.....	.....	.....

*New high †New low xEx-Dividend

Cleveland Stock Market

January 6

	Par Value	Bid	Asked	Last Sale
Canfield Oil Co.	100	...	...	...
do pfd.	100	100	...	100
Fred G. Clark	10	2	3½	2⅛
National Refining Co.	25	35½	37	37½
do pfd.	100	130½	...	130½
Paragon Refining Co.	25	9½	10	9½
do pfd.	100	...	106½	107½

x Ex-Dividend

TULSA, Jan. 7.—Miss Golda Dorothy Banks, secretary to R. B. Tansel, in charge of the Tulsa office of the Petroleum Oils Corp., and Robert W. Clark, employed by the Humble Oil Co. at McCamey, Tex., were married here Christmas Eve.

WICHITA, Kans., Jan. 7.—L. A. Crandall, salesman for the Vickers Petroleum Co. here, died Jan. 1 in a hospital at St. Joseph, Mo. Mr. Crandall had the Iowa and Missouri territory.

Standard Oil Stock Traded in New York

1926 High	1926 Low	1927 High	1927 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended Jan. 7 Sales	First	High	Low	Last	Change
21	16⅝	21⅝	17⅝	£ 4,000,000	£1	Anglo-American Oil	60⅓c	May 31, 27	400	18½	18½	18¼	18½	0
20¼	16½	20½	17⅝	.....	£1	do ctfs. non-voting	.....	.....	300	18¼	18½	18⅛	18½	— ½
2¾	.75	3⅜	.75	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....	300	1⅞	1⅞	1½	1½	— ⅜
5	2⅞	6¼	2½	$ 000,000	$ 10	do pfd.	.....	.....	100	3½	3½	3½	3½	Cash
75	65	69	50	1,000,000	25	Borne Scrymser	‡$1S.A.	Oct. 15, 27	.....	.....	.....	.....	.....	.....
59½	42	60	45	10,000,000	50	Buckeye Pipe Line	$1Q	Dec. 15, 27	500	58	58½	58	58½	+ 1
82½	65	126	76½	3,000,000	25	Chesebrough Mfg.	$1Q	Dec. 28, 27	700	117¼	122½	117¼	122½	+ 2⅜
25⅞	17½	22⅝	16¼	38,805,260	10	Continental Oil	25cQ	Dec. 15, 27	.....	.....	.....	.....	.....	.....
137	102	137	89	3,000,000	100	Cumberland Pipe Line	$2Q	Dec. 15, 27	.....	.....	.....	.....	.....	.....
63¾	43	68½	47	5,000,000	100	Eureka Pipe Line	$1Q	Nov. 1, 27	150	64⅛	64¾	64⅛	64¾	+ ¼
32½	9⅛	13½	3¾	16,000,000	100	Galena Signal Oil	.....	June 30, 25	200	4¼	6½	4¼	6½	+ 2½
94½	35	59½	23	4,000,000	100	do new pfd.	.....	June 30, 26	20	27	27	27	27	+ 2
97½	40	60⅛	36	2,000,000	100	do old pfd.	.....	June 30, 26	230	36¼	36¼	35	35	— 1¼
99⅛	52	68½	54	73,117,577	25	Humble Oil & Refining	‡30cQ	Jan. 1, 28	12,600	67½	67¾	65½	67¼	— ¼
144½	125¼	182	123¾	20,000,000	100	Illinois Pipe Line	$6S.A.	Dec. 15, 27	50	176½	176½	176½	176½	+ 2⅛
39¾	32½	64⅜	37¾	(sh) 6,491,952	N.P.	Imperial of Canada	‡25cQ	Dec. 1, 27	3,600	59½	59⅞	59	59⅛	— ⅜
70	54¼	94½	61	$ 5,000,000	$50	Indiana Pipe Line	‡$1Q	Nov. 15, 27	.....	.....	.....	.....	.....	.....
35¼	28¾	39	28	(sh) 7,118,138	N.P.	International Petroleum	25c	Nov. 15, 27	13,800	37	37	36½	36½	— ½
20⅝	12¼	24	13½	$ 6,362,500	$12½	National Transit Co	25cQ	Dec. 15, 27	900	20¾	21	20½	20⅞	0
51¾	27⅛	44½	31¼	5,000,000	100	New York Transit	.....	July 15, 26	500	37½	40	37½	40	+ 3½
80½	64	100	70	4,000,000	100	Northern Pipe Line	‡$3S.A.	Jan. 1, 28	300	94	95	94	95	+ 2
67⅜	55¾	67⅜	52	60,000,000	25	Ohio Oil Co	‡50cQ	Dec. 15, 27	7,200	65⅝	66	64¾	65¾	— ¼
24¾	15	39	12	10,000,000	25	Penn Mex. Fuel	.....	May 21, 25	3,800	37¼	38	36	37	— 1
60¼	48	55½	45⅝	60,000,000	25	Prairie Oil & Gas	.....	Aug. 31, 27	11,100	49	49⅜	48¾	49⅛	0
137½	122¼	190	132	81,000,000	100	Prairie Pipe Line	$2.50Q	Oct. 31, 27	300	185	187	185	186	— ½
220	184½	201½	175½	4,000,000	100	Solar Refining	$5S.A.	Dec. 20, 27	60	178	178	178	178	0
27	21	27¼	15½	5,000,000	50	Southern Pipe Line	$2	Dec. 1, 27	100	21	21	21	21	0
50	34⅛	41½	34½	20,000,000	25	South Penn Oil	50cQ	Dec. 31, 27	2,200	38	38	37	37⅛	— ⅞
57	49	111½	111⅝	3,500,000	100	South West Pa. Pipe Lines	‡$1Q	Dec. 31, 27	360	71	71¾	70	71	— 2
70½	60⅛	81½	64¾	228,415,463	25	S. O. Indiana	‡62½cQ	Dec. 15, 27	23,800	78	79⅞	78	79⅜	+ 1
36½	16½	20⅞	14⅝	8,000,000	25	S. O. Kansas	.....	June 16, 24	900	15¼	16	15	16	+ 1⅛
134¾	108	130	111¼	17,012,599	25	S. O. Kentucky	$1Q	Dec. 31, 27	15,300	124⅜	131¾	124	130⅜	+ 6⅜
51⅛	42	49½	40	4,559,850	25	S. O. Nebraska	62cQ	Dec. 20, 27	400	41⅞	42¼	41¾	42¼	+ ¼
672	288	863¾	73	14,000,000	25	S. O. Ohio	62½cQ	Jan. 2, 28	1,050	79	79	78	78	0
120½	116½	122	117¼	7,000,000	100	do pfd	$1.75Q	Dec. 1, 27	20	120¼	120¼	120¼	120¼	0
23	15½	21	14½	861,466	25	Swan Finch Co	.....	Nov. 1, 19	.....	.....	.....	.....	.....	.....
109¾	90¼	149⅞	95⅛	62,470,800	25	Vacuum Oil	‡50cQ	Dec. 20, 27	65,300	140½	141	139	140	— ½

*New high †New low xEx dividend ‡Also extras.

New York Curb Bonds

Week Ending January 6

	High	Low	Last	Ch'ge
Beacon Oil 6s '36	103	102	103	+1
Cities Service 5s '66	91	90⅞	90⅞	0
Cities Service 6s '66	103⅜	103	103	— ¼
Cities Service G 5½s '42	95¼	95	95¼	+ ⅛
Empire Oil 5½s '42	92⅞	92⅝	92⅞	0
Gulf Oil 5s '37	101¾	101¼	101¾	+ ¾
Independent Oil 6s '39	97¾	96½	97¼	+1⅛
Phillips Pet. 5½s '39	95	94	94⅞	— ⅛
Richfield Oil 6s '41	98⅜	98¼	98½	+ ⅛
S. O. of N. Y. 6½s '33	104	103½	103⅝	— ⅛
Sun Oil 5½s '39	102⅛	102	102⅛	+ ⅛
Trans. Cont. Oil 7s '30	112½	111½	112½	+1½
Warner-Quin. 6s '42	100¾	99¾	100¾	0

New York Bonds

Week Ending January 6

	High	Low	Last	Ch'ge
Amer. Reb. deb. 6s	102¾	102¼	102⅜	0
Assoc. Oil gold 6s	103¼	103¼	103¼	+ ¼
Atlantic Refg. deb. 5s	103¼	102¼	103¼	+1¾
Barnsdall Corp. 6s	101½	100½	101½	+1½
Barnsdall Corp. 6s ex-war	91½	90½	91¼	+1¼
Cal. Pet. 5s	98¼	95¾	98¼	+2¼
Cal. Pet. 5½s	101½	100	101½	+1⅛
General Asphalt 6s	113	109	113	+4½
General Pet. 5s	102⅛	102¼	102⅛	0
Humble Oil & Refg. 5½s	102⅞	102⅝	102⅝	+ ¼
Humble Oil 5s	100⅜	100	100⅜	+ ⅛
Mid-Cont. 6½s	105	104¾	104⅞	+ ⅛
Pan Amer. P & T 7s	105⅜	105⅜	105⅜	— ⅛
Pan Amer. P & T 6s	103⅞	103	103⅜	— ¼
Pan Amer. P & T 6s	94¾	93	94½	+ ¼
Simms Pet. cvt. 6s	108½	107⅞	108½	+1½
Sinclair Con Oil Col 7s	100½	100	100½	+ ½
Sinclair Con Oil col 6½s	98¾	97¼	98¾	+1⅜
Sinclair Con. Oil 6s D	98	97¼	97⅞	+ ⅞
Sinclair Crude Oil 6s	100⅛	100	100	0
Sinclair Pipeline 5s	94⅜	94⅛	94½	+ ½
Skelly Oil 5½s	95	94½	95	0
S. O. of N. Y. 4½s	97⅝	97⅜	97½	— ⅛
S. O. of N. J. deb. 5s	104	103⅜	103½	0
Union Oil of Calif. 6s A	109⅛	108⅞	108⅞	— ⅜
Union Oil of Cal. 5s C	99⅞	99½	99½	— ⅜
White Eagle 5½s	96⅛	96	96	0

New York Curb Market

1926 High	1926 Low	1927 High	1927 Low	Par Value	Stocks	Transactions Week Ended Jan. 7 Sales	First	High	Low	Last	Change
6¾	45	2 1/16	.55	$5	Amer. Con. Oilfields	118,000	1 1/16	1⅛	.98	1 1/16	0
14½	4	7½	2¾	N.P.	Amer. Maracaibo	20,200	3¼	4½	3½	4	+ ⅞
8⅜	5⅜	9¾	6¾	$10	Arkansas Nat. Gas	600	9	9½	9	9½	+ ½
20⅜	14⅜	20½	15½	N.P.	Beacon Oil	.....	.....	.....	.....	.....	.....
85¼	60	49	20½	N.P.	British American	2,700	39	39¾	28¾	39½	+ 1½
28⅜	9¼	28¼	14⅜	25c	Carib Syndicate(new)	2,300	19⅛	19⅜	18½	18½	— ½
....	....	26	16½	...	do ctfs. of deposit	.....	.....	.....	.....	.....	.....
51	37½	58¼	40¼	$20	Cities Service	26,000	55⅜	56	55⅜	55¾	0
92⅛	82⅜	95⅜	87	100	do pfd.	3,800	94⅝	95⅛	94½	95⅛	+ ⅜
8⅞	7⅝	8⅞	7⅝	10	do pfd. B	100	8⅞	8⅞	8⅞	8⅞	0
25¼	19	29¼	22½	10	do banker's shares	.....	.....	.....	.....	.....	.....
3½	1¾	3 1/16	1⅛	$1	Colombia Syndicate	9,100	1⅝	1⅛	1⅝	1⅞	+ 1/16
10⅜	8⅜	9½	6¾	10	Consolidated Royal	.....	.....	.....	.....	.....	.....
16	10	14⅞	9½	N.P.	Creole Syndicate	141,000	10	11¾	10	11¾	+ 1¾
7⅜	1⅜	3	.50	N.P.	Crown Central	1,900	.80	1.00	.80	1.00	+ .24
8½	½	12	4	...	Darby Petroleum	.....	.....	.....	.....	.....	.....
....	....	11½	5	...	do trust ctfs.	.....	.....	.....	.....	.....	.....
4	1¾	2½	75	N.P.	Derby Oil & Refining	500	1	1	1	1	— ¼
19	13	16¾	6⅛	N.P.	do pfd	.....	.....	.....	.....	.....	.....
7½	2½	3¾	1	N.P.	Gibson Oil	3,400	1¾	1⅞	1¾	1⅞	+ ⅜
2	.63	1¾	.40	N.P.	Gilliland ctfs.	.....	.....	.....	.....	.....	.....
98	82	117½	86¼	$25	Gulf Oil Corp.	22,300	116	117¼	112	114⅞	— 1⅛
3⅜	1	2¼	1½	N.P.	Kirby Petroleum	500	1½	1½	1¼	1¼	— ¼
12¼	5¾	10⅞	5⅜	N.P.	Leonard Oil & Dev.	7,000	6	6⅜	6	6¼	0
27	20	27½	20	N.P.	Lion Oil & Refg.	.....	.....	.....	.....	.....	.....
46	31	59⅜	37	$25	Lone Star Gas	600	53¾	54	53¼	53¼	— ¾
2⅜	2	2⅞	.87	1	Magdalena Synd.	8,400	1½	1⅝	1⅜	1⅜	0
5½	1⅞	3	1½	10	Mexican-Panuco	.....	.....	.....	.....	.....	.....
1¾	1¼	1½	1	1	Mountain & Gulf	1,500	1⅜	1⅜	1⅜	1⅜	0
26	23	29¼	22¾	10	Mountain Producers	15,600	28⅜	28½	27⅛	28⅜	0
6¾	5	5⅞	4⅝	5	New Bradford	900	5⅝	5⅝	5⅜	5⅜	0
11¾	2	6¼	4	10	New England Fuel	.....	.....	.....	.....	.....	.....
17	9⅛	16	9¼	1	New Mex. & Ariz.	6,900	9½	9⅞	9¼	9½	0
17	8	13⅞	9	25	New York Oil	1,100	13½	13¾	11½	11½	— 2
12⅛	8¾	12⅜	10	N.P.	North Cent. Texas	900	10¾	11⅛	10¾	11	+ ⅜
44¾	33	....	....	$25	Ohio Fuel Corp.	.....	.....	.....	.....	.....	.....
33	28½	27½	21¼	...	Okla. Nat. Gas ctfs.	.....	.....	.....	.....	.....	.....
10⅛	5⅞	9⅜	1¾	N.P.	Pandem	4,900	4¼	4⅞	4¼	4⅞	+ ⅜
12¼	11¾	12⅜	7	N.P.	Pantapec Oil	.....	.....	.....	.....	.....	.....
2¾	.20	.37	.25	N.P.	Peer Oil Corp.	.....	.....	.....	.....	.....	.....
22¾	12	13½	5⅛	$10	Pennok Oil	.....	.....	.....	.....	.....	.....
38	14⅛	24½	7	25	Red Bank Oil	.....	.....	.....	.....	.....	.....
30¼	12	15½	2	N.P.	Reiter-Foster	2,600	5⅛	5½	5	5¼	0
27½	22	29⅝	15	$25	Richfield Oil	.....	.....	.....	.....	.....	.....
7½	....	4½	7	4½	N.P. Ryan Consolidated	400	5	5	5	5	0
10	7½	8	6	$10	Salt Creek Cons.	1,900	7	7¼	7	7⅛	0
36	26⅜	35½	27¼	10	Salt Creek Prod.	12,200	34⅝	34⅞	34	34¾	+ ¾
4⅜	1⅜	7	1¼	5	Savoy Oil	.....	.....	.....	.....	.....	.....
27	7⅝	26½	17	10	Tidal Osage	300	20	20	19½	19½	— ⅛
25¾	7⅝	23¾	15	10	do non-voting	200	18	18	18	18	+ ¼
...	...	92	63½	100	Transcontinental pfd.	100	85	85	85	85	+ 3
3	4⅛	7⅛	4¼	5	Venezuelan Petrol.	4,100	5	5⅝	4⅞	5⅝	+ ¾
31⅛	22	32⅝	20⅝	N.P.	Wilcox Oil & Gas	800	21½	21½	21¼	21½	+ ½
9½	4⅜	8	4¾	$1	Woodley Petroleum	200	6	6⅛	6	6⅛	+ ⅛

*New High †New Low xEx Dividend

(*Continued from Page* 108)

the class B stock 20⅛ points.

Among the Mid-Continent Independents Simms stock fare the best with a gain of 3¼ points, noted before. Marland lost 22½; Phillips, 15¼, Skelly 8, White Eagle and Mid-Continent 6 each, Independent Oil & Gas 4⅛; Amerada 1⅞, and Barnsdall A 2⅝ and B ⅝.

Stock of the Texas Corp., the largest Independent company listed on the New York Exchange, gained a point. Pure Oil lost 1½ points. "New York shares" of the Royal Dutch Co., Shell Transport & Trading Co., and their American holding company, Shell Union Oil Corp., suffered losses of 5⅛, 1⅞ and 3½ points, respectively.

There was no well defined movement of oil stocks during the year. A majority of them, however, reach their high levels in January or February and their low points in the second half of the year. Others were lower in the early part of the year and reached their peaks in the second half.

Activity was slightly less than in 1926. Last year 57,476,654 shares were sold, compared with 59,748,930 in 1926. Phillips was the most active, transactions totaling 5,838,100 shares. Houston was a close second with sales totaling 5,703,600 shares.

Oil Financing in 1927

Total $440,000,000

CLEVELAND, Jan. 9.—Financing in this country by oil companies totaled almost $440,000,000 in 1927, exclusive of the financing of small companies which in the total probably ran into many millions also. Bond issues by large companies totaled $417,800,000 and their issues of new stock amounted to $21,487,500 exclusive of the stock sold employes by the Standard and other companies.

The principal bond issues of 1927 were:

Beacon Transportation Co.	$ 2,000,000
Batavian Petroleum Co.	25,000,000
California Petroleum Corp.	8,000,000
Continental Oil Co.	12,000,000
Empire Gas & Fuel Co.	18,000,000
Empire Oil & Refining Co.	30,000,000
Gulf Oil Corp.	35,000,000
Humble Oil & Refining Co.	25,000,000
Independent Oil & Gas Co.	6,500,000
Marland Oil Co.	30,000,000
Phillips Petroleum Co.	40,000,000
Pure Oil Co.	20,000,000
Shell Union Oil Corp.	50,000,000
Shell Pipe Line Corp.	30,000,000
Sinclair Cons. Oil Corp.	20,000,000
Sinclair Crude Oil Pur'ing Co.	42,000,000
Skelly Oil Co.	15,000,000
Tide Water Assoc. Oil Corp.	1,800,000
Warner Quinlan Co.	2,500,000
White Eagle Oil & Refg. Co.	5,000,000
Total	$417,800,000

Issues of stock included:

Pure Oil Co.	$5,000,000
Richfield Oil Co.	5,000,000
Independent Oil & Gas Co.	4,200,000
Sun Oil Co.	4,500,000
Warner-Quinlan Co.	1,500,000
Bolivian Petroleum Co.	700,000
Carib Syndicate	587,500
Total	$21,487,500

THE OIL INDUSTRY EXCHANGE

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10 YEARS EXPERIENCE OIL BUSINESS, refining, marketing compounding, 35 years old, married. Not afraid of work. Would consider connection only with reliable company, where chance of promotion is open. Now employed, available on thirty days notice. Address Box 996.

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SALES EXECUTIVE, 14 years experience in oil business, including refinery operation, traffic, wholesale and retail sales, also some export sales work. Available immediately. Address Box 999.

GASOLINE PLANT MECHANICAL ENGINEER, now with major company, desires connection for betterment. Thoroughly acquainted with all types plants. Address Box 995.

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Perfection Mfg. Co.
Petroleum Iron Works Co.
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Standard Garment Co.
Standard Lift Co.
Standard Liquid Testing Devices, Inc.
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